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THE UNITED STATES INTERNATIONAL MARITIME INDUSTRY:
CHALLENGES TO SUSTAINING THE FORCE

A thesis presented to the Faculty of the U.S. Army
Command and General Staff College in partial
fulfillment of the requirements for the
degree

MASTER OF MILITARY ART AND SCIENCE



by

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The goal of this thesis is to explain the numerous, complex reasons for the deterioration of the US international maritime industry. The impact upon our national defense is also examined in detail.

Those forces contributing to its decline are analyzed--federal regulatory processes, domestic political considerations and forces at work in the international marketplace. It becomes evident why American shipping companies operate at a competitive disadvantage to their foreign counterparts.

The importance of the US merchant marine to our defense efforts is underscored, particularly in light of a Soviet maritime buildup. Anticipated shortfalls in strategic sealift resources are examined for both a one theater war and global conflict. Also considered are potential problems of crew availability and the adequacy of the National Defense Reserve Fleet, Ready Reserve Force and Effective US Control Fleet.

Because no long-term plan for eradicating the root causes of our merchant marine troubles have been adopted by the nation, it is likely the US international maritime industry will continue to flounder in the future.

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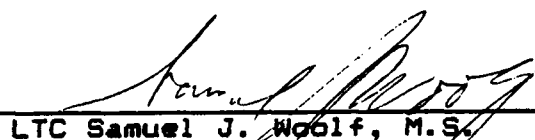
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ABSTRACT

THE UNITED STATES INTERNATIONAL MARITIME INDUSTRY:
CHALLENGES TO SUSTAINING THE FORCE, by Major Bradley E.
Smith, USA, 153 pages.

The goal of this thesis is to explain the numerous, complex reasons for the deterioration of the US international maritime industry. The impact upon our national defense is also examined in detail.

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*Key words: Logistics,
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CHAPTER 1

INTRODUCTION

The national security of the United States is directly linked to the ability of her merchant marine to project and sustain combat forces overseas. Our global commitments have never been more numerous and complex. The US Government has obligated itself to assist our allies throughout the world. In peace, we provide them economic support and, in war, we would need to supply military reinforcements and sustenance.

US foreign policy, as it relates to the merchant marines of the world and the international marketplace, has created a paradox for this nation. The pursuit of free trade, laissez-faire and fair competition with other countries are intended to benefit the United States and her allies. Indeed, these ideals do promote economic interdependence, mutual support and friendly relations between countries. But, in actuality, the long-term effects of these policies have been to weaken the US merchant marine and our ability to live up to our military commitments overseas.

The American maritime industry is at a distinct competitive disadvantage, compared to its foreign counterparts. Our policies of free trade and fair competition have, in many instances, been implemented on a unilateral basis. Also US ship lines do not receive federal subsidies even a fraction as large as their competitors overseas receive from their own governments. (This is not to say that the answer to our maritime woes rests with greater subsidization.)

As a result, trends in the number of US ships and deadweight tonnage (dwt--see Glossary, Appendix A) have declined for the last thirty years. This hurts our domestic economy in more ways than one. There are related industries, such as shipbuilding, which have suffered along with the ship operators. A weak industrial base at home inhibits our ability to support our allies in time of need.

Policies intended to bolster US relations overseas have resulted in a loss of credibility due to a weakened domestic maritime industry which is critical to our defense commitments. Regardless of how noble and principled our actions are intended to be, the consequences may be seen as a sign of weakness by our potential adversaries.

The maritime industry has always played an important role in our military history. In 1944, General of the Army Dwight Eisenhower stated, "When final victory is ours, there is no organization that will share its credit more¹ deservedly than the American merchant marine". In 1987, President Reagan and the United States Congress, concerned over the present condition of the US maritime industry, created a special Commission on the Merchant Marine and Defense to study the situation and make recommendations. One wonders why we have let a first class world maritime power decay and dwindle away over the years.

Despite the growth of air transport, the Defense Department's dependence on the merchant marine is as great as ever. The current Military Sealift Commander, Vice Admiral Walter Piotti, Jr., estimates 95 percent of the dry cargo and 99 percent of the liquid cargo needed to sustain² land combat must go by sea. (Much of the material to be moved is air transportable, but insufficient aircraft exist to do the entire job.) Even most of the initial surge requirements to move military equipment to the theater of³ operations must go by ship.

Modern technology has increased the pace of conventional warfare and that affects our maritime

industry in two ways. First, our new weapon systems consume more fuel and ammunition than ever before. This means greater demand on the merchant marine at a time when it is ill-equipped to handle the required tonnages. Second, modern equipment used by our enemies will shorten our available response time. When the demand for our ships exceeds their availability, there will be no time or capability to build a fleet, as we did in World War II.

Even in the event of a long, drawn out war, our shipbuilding industry is in such meager condition that it would take time just to rebuild its manufacturing base before the ships themselves could ever be started. Crew shortages are another problem. It takes more time to train men to sail a ship than it does to build it. So, as a matter of fact, any future war will have to be supported with the shipping assets on hand at the outset. The merchant marine is an Achilles heel of our national defense. As former Secretary of the Navy John Lehman put it...

It is not enough that the United States achieve naval superiority alone; maritime superiority is also an absolute imperative. Mahan's instincts were correct; shipping and trade are a nation's very lifeblood. The US merchant marine has atrophied to an extent that should raise grave public concern. It is unlikely that US shipping--going it alone--is currently capable of supporting US requirements in

peacetime, much less war. Our maritime situation is nothing less than a calamity. (4)

Problems confronting our maritime businesses are numerous. They cannot be properly understood unless they are placed in their economic, political and military contexts. Federal regulation and subsidization of the industry, along with the resulting impact in the international marketplace, must be examined. Shortages of strategic sealift (and the challenge that poses for military planners) will also be looked at in detail. Few solutions can be proposed in this paper, because the complexity and interdependency of our sealift with other aspects of the economy and national politics most solutions would extend into other realms. Instead, the only goal of this thesis is to develop an appreciation for reasons the US international maritime industry has deteriorated and the impact it has on our national defense.

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1

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CHAPTER 2

ORIENTATION TO THE US FLAG MERCHANT MARINE

There are many ways to categorize the United States merchant marine. It can be done on the basis of ownership, commodity and geographic service. A brief description of these categories is presented, followed by an analysis of significant trends in the maritime industry.

Ownership

The federal government owns active and inactive maritime fleets.¹ Military Sealift Command (MSC) controls the active segment which is composed of ten dry cargo ships as of January 1, 1987 and 53 privately-owned,² US flag dry cargo and tanker vessels under charter. The inactive ships are maintained by the Maritime Administration and include the National Defense Reserve Fleet and the Ready Reserve Force.

Private industry owns and operates most of the ships³ in the US flag merchant marine. Twenty-four American companies at present have 403 vessels, not including those

chartered to the MSC.⁴ They include breakbulk freighters, intermodal container ships, bulk dry cargo carriers, tankers, liquefied natural gas (LNG) carriers,⁵ tug-barge systems and combination passenger/cargo ships.

Commodity

The merchant marine can be broken down into two commodity related categories: the liner industry and the dry/liquid bulk industry. The liner, or common carrier industry, handles all types of cargo. The dry/liquid bulk industry differs in that it is composed of ships that almost always carry one commodity, such as grain, coal,⁶ petroleum products or fluid chemicals. (Container-bulk vessels, or CONBULK, fit both category descriptions. They carry containers and bulk products simultaneously.)

⁷ Geographical Service

Domestic shipping includes coastwise, intercoastal and noncontiguous service. Coastwise trade is made up of tankers and tug-barge units that transport liquid/dry bulk cargo between major US industrial areas. Intercoastal traffic which is between the Pacific coast and ports on the Gulf and Atlantic is small in comparison to coastwise.

Completion of the Panama Canal in 1914 reduced the transit time between our east and west coasts, but intercoastal trade has continued to dwindle away. (It cannot compete with the subsidized advantages this country's trucking, rail and pipeline industries offer.) Noncontiguous trade connects the Continental United States with our offshore states, the Commonwealth of Puerto Rico and trust territories such as Wake and Guam. This part of the maritime business has boomed since the 1950s, due in a large part to industrial growth in Puerto Rico and oil exports from Alaska.

International shipping services and their impact on strategic mobility will be the focal point of this paper; not domestic shipping. The latter plays an important role in our mobilization effort by relieving some of the congestion and pressure on our trucking and rail industries. But it is the international maritime industry that has the greatest impact on our ability to project our combat power overseas.

Flags of Convenience

Flags of convenience (FOC) can be defined as shipping...

...under which there exists no genuine link between the State and the ships and, in particular, under which the State does not effectively exercise its jurisdiction and control in administrative, technical and social matters over a ship flying its flag. (8)

FOC ships are better known in US maritime circles by a variety of derogatory names such as pirate flags and coffin ships. They also have names such as flags of necessity that may be more accurate. ⁹ A total of 16 countries offer FOC agreements with other maritime ¹⁰ countries.

Most American companies which own FOC vessels register them in Liberia, Panama, the United Kingdom and the Bahamas. As of January 1, 1987, the fleet of FOC ships owned by US companies or foreign affiliates of US companies, incorporated under the laws of the United States, numbered 394 with an aggregate deadweight tonnage ¹¹ (dwt) of 36,795,388. The privately owned US flagged merchant marine at the same time was composed of 456 ¹² vessels with a capacity of 20,700,000 dwt.

Historical Development of FOC

During the War of 1812, American merchants registered their vessels with Portugal to avoid intercept and capture by British warships. In the years preceding the American Civil War, US slave traders flew flags other than their own to circumvent our slave repression treaties. Foreign registry was also used on a large scale during the early stages of World War II, before the United States officially entered the war. This allowed us to avoid the Neutrality Acts of 1935 and made it politically possible to supply our European allies at war with
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Germany.

After World War II, European governments provided tax relief and money to their ailing merchant fleets and continued to do so throughout the postwar years in an
14
attempt to bolster industrial growth. This placed American competitors, with far less government support, at a distinct disadvantage. One way for the US shipping industry to remain competitive was to adopt foreign registry. It was a means of survival. FOC shipping, then, offered the same advantages it does today.

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Advantages of FOC

Foreign countries offering FOC registration do not normally require a corporate income tax. Instead, there are registration fees and annual renewal charges, amounting to a few cents per registered ton. Some countries, such as Liberia, keep the owners' names confidential, which makes it easy to evade taxes at home if the operator is so inclined.

Flags of convenience provide a way for American companies to escape paying the high wages and training costs of US crews. By flying a foreign flag, unions can be bypassed and crews hired from a third world country. Foreign wages are at most only half those of their American counterparts. FOC countries do not specify minimum numbers of sailors in a crew or minimum training requirements. One 1975 study determined FOC ships employ an average of nine to 11 crew members compared to ten to 44 for non-FOC vessels.

Flags of convenience have relaxed maintenance and safety standards. This reduces operating costs but makes the ships hazardous to sail. During the 1960s and 1970s, oil spills off our shores got out of hand before the Coast

Guard started a rigorous inspection policy at sea and turned away those floating disasters. Captains of FOC ships cleaned up their act because they knew the US Government meant business, and today we do not have the¹⁷ spill problems that existed a decade ago.

A final advantage of FOC ships is the simple and convenient registration process. Foreign countries have offices in this country and contracts are written in English. And US dollars are used as the exchange currency, which gives the host nation a hard foreign currency source. Even incorporation in the host nation is not always required. An American company simply pays registration and tonnage fees, and receives the necessary paperwork to fly the flag of convenience.

¹⁸ US Policy Toward FOC

The United States currently tolerates FOC shipping. Abolishing it could financially ruin American ship lines which originally turned to FOC because they were otherwise unable to compete in the world market. Bankruptcies would open the door to our foreign competitors, including Communist powers--which are vigorously building their own merchant marines. It would also result in even fewer ships

available to support our own war efforts overseas in the future.

And the American FOC business, in countries such as Liberia, Honduras, Panama and the Bahamas, do help support the economies of these nations. That helps to make the Communist alternative less attractive. It is particularly important to protect our interests in the Carribean and South America. So the FOC arrangements may, in fact, be of indirect benefit to our defense posture.

Another consideration is tax savings for the American public. Non-FOC American ship lines can apply to the Maritime Administration for and receive operating-differential subsidies (ODS) and construction-differential subsidies (CDS) to offset the difference between US and foreign operating and construction costs. If there were no FOC alternative to turn to, more use of those subsidies would result. In fact, the declining ODS and CDS outlays for the last 20 years can be attributed in part to the growth in the US owned FOC fleet.

Current State of the US
International Maritime Industry

The United States merchant marine is composed of privately owned, deep draft vessels. The US flag fleet totalled 570 in September 1986, reflecting a 41 vessel decrease since September 1985. The carrying capacity, as of September 1986, was approximately 23 million deadweight tons (dwt), a decrease of 122,000 dwt from a year earlier. Of the 570 ships on hand as of July 1986, 103 were Great Lakes vessels which serve as economic support vessels.¹⁹ The remaining 465 were oceangoing and carried less than four percent of all US waterborne freight. These figures are particularly disturbing in light of the 1,224 ship fleet in 1950. That is more than a 200 percent decrease²⁰ since the beginning of the Korean War.

According to the Division of Trade Studies, United States Maritime Administration, there has been a decline, over the last several decades, in the number and size of US flag international liner companies. As of July 1970, there were 15 liner companies composed of 284 vessels. In the 18 years to follow, both those figures declined. At present,²¹ there are 12 carriers with 105 ships.

These 12 international liner companies currently have a diverse profile. Nine of them own three or fewer ships apiece. (According to Maritime Administration figures as of January 1988, the largest carrier in terms of number of ships is Sea-Land with 31 vessels.) Five of the 12 companies are receiving operating-differential subsidies from the Maritime Administration. Seven of them are²² receiving construction-differential subsidies.

In the first half of 1986, the five largest carriers reported significant losses. United States Lines, Sea-Land and American President Lines collectively lost \$212.7 million despite \$47.2 million in operating subsidies from the Maritime Administration. Lykes Brothers scaled back its services due to heavy losses, and creditors seized Prudential Lines' assets after the company defaulted on²³ loans.

There have been numerous companies in recent years that have ceased operations completely. Three of them--United States Lines, United States Lines (S.A.) and Prudential--struggled in bankruptcy last year and recently²⁴ decided to shut down permanently. Between 1970 and 1987, 30 US bulk carriers and 95 tanker operators were²⁵ forced under financially.

It is clear that the United States' privately owned merchant fleet no longer holds a position of prominence in world shipping. (See below.)

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US Maritime Industry World Rankings

January 1, 1976

	Rank by <u>DWT</u>	DWT (000's)	Rank by <u># of Ships</u>	# of <u>Ships</u>
Freighter Fleet	7th	4959	11th	305
Bulk Carrier Fleet	27th	544	29th	19
Tanker Fleet	8th	9475	7th	250

Merchant Fleet	10th	15028	10th	580
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January 1, 1986

	Rank by <u>DWT</u>	DWT (000's)	Rank by <u># of Ships</u>	# of <u>Ships</u>
Freighter Fleet	6th	4889	15th	209
Bulk Carrier Fleet	28th	1152	31st	25
Tanker Fleet	5th	15801	6th	235

Merchant Fleet	6th	21196	14th	477
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American merchant vessels christened during the period January 1, 1976 to January 1, 1986 were constructed with greater carrying capacities than the ships they replaced. This explains the seemingly contradictory findings presented in the chart above--an increase in deadweight tonnage simultaneous with a drop in the number

of ships. Larger vessels offer some competitive advantages to American business such as reductions in variable costs. There are, however, some associated disadvantages. Increased deadweight tonnage makes it more difficult to fill vessels to capacity and achieve an acceptable degree of utilization. Fewer ships adversely effect military considerations such as combat attrition and the employment of a shrinking maritime labor force that is needed to man our reserve fleets. All of these factors--both pro and con--will be examined later in this paper.

One of the recent findings of the Commission on Merchant Marine and Defense would surprise most Americans.

The current inventory of ships suitable for strategic sealift is inadequate to meet the requirements even of a single theater conflict. With the projected dramatic net decrease in the number of ships, merchant seamen, and shipyard facilities and workers during the next 13 years, it will be impossible for the United States to meet the requirements of the the national strategy in the year 2000 from its own resources. (27)

But there are some bright spots. Given this bleak outlook, American ship lines have turned to innovative ways to increase productivity. They cannot rely solely on federal subsidies to stay afloat. Firms have adopted new forms of joint ventures called rationalization, made legal

by the Shipping Act of 1984. Rationalization helps in times of overtonnaging (when the total ship capacity outweighs the demand). Carriers, in essence, share ships, which makes it easier for them to fill vessels to capacity. (American carriers have done very little in the way of rationalization with other flags.) Costs of layberthed ships are also shared, as part of these joint agreements, until the ships are scrapped, sold or once again set sail. Competition is still maintained to a degree because American carriers do not share other functions such as sales, operations and document control.²⁸

Mergers in the transportation industry are nothing new, but there has been a recent growth in intermodal mergers such as CSX and Sea-Land. They have created economies of scale and have promoted efficient operations between different transport modes.²⁹

Most large ship lines are introducing computer systems with the goal of reducing labor costs and establishing a virtually paperless relationship between carrier and shipper. Customers will have their own computer terminals with immediate access to information pertaining to booking, bills of lading, sailing schedules

and port calls. These computers can also automatically generate reports which are required by government agencies such as the United States Customs Service. Computerized information systems improve the controls on cargo,
30
equipment and documentation.

The US transportation industry is continuing to capitalize on the ease and speed of movement made possible by containerization. Major ship lines have introduced a new generation of efficient containerships that are capable of carrying more deadweight tons. They have encouraged intermodal networks to serve the interior regions of America and all major US ports. New water terminal facilities have been developed and existing terminals upgraded to facilitate the transfer of containers between various transport modes--water, rail and motor. The US maritime industry has pioneered and encouraged the use of
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double-stacked unit trains which are now commonplace.

New uses are being found for containerships which make them more versatile and productive. These vessels have become even more attractive to Department of Defense contractors since the development of sea sheds and flatracks (see Glossary, Appendix A). Containerships until then were limited to material that could only fit inside a

standard size container. This excluded carriage of larger military vehicles and outsized breakbulk cargo which are needed during peacetime exercises and for the conduct of war.

Other developments in the American shipping industry have reduced vessel turn around time in port and all its associated costs. Roll-on/roll-off (Ro/Ro) ships have ramps that allow wheeled and track vehicles to drive aboard, park and be tied down. The off-loading is just as fast. Ships built in the United States over the last ten years are, as a general rule, more efficient than the older vessels in terms of loading/off-loading, stowage and fuel consumed per nautical ton mile.

Lighter-carriers bear cargo-laden barges on the high seas. (For an explanation of the two types of lighter-carriers, LASH and Seabee, see Glossary, Appendix A.) Cargo handling is minimized because the lighters are preloaded before the ship's arrival. At destination, the barges can be discharged at port or open anchorage near the mouth of an inland waterway. This keeps down total costs for the entire transportation system, which translates into more attractive rates for shippers. And because

lighter-carriers are an American invention, it gives us a competitive edge over the foreigners. Unfortunately, they are already copying us.

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There are 16 countries which offer FOC agreements with other maritime nations. They are: Panama, Liberia, Honduras, Bahamas, Costa Rica, Lebanon, Cyprus, Malta, Somalia, Morocco, San Marino, Haiti, Sierra Leone, Cayman Islands, Seychelles and Oman. Five other countries offer tax shelters to maritime companies or are quasi-FOC

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Maritime Administration, Merchant Fleets of the World: Ooceangoing Steam and Motor Ships of 1,000 Gross Tons and Over as of January 1, 1986 (1986): pp. 4, 5, 9, 18, 21, 38 - 45. One has to be careful about using deadweight tonnage capability as the sole performance indicator. Efficiency and productivity are other major considerations that should not be overlooked. (Both are discussed later in this chapter.) Personal letter from C. Kent Palmer, Senior Instructor, Marine Terminal, US Army Transportation School, Fort Eustis, Virginia, March 3, 1988.

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CHAPTER 3

REGULATION OF THE US INTERNATIONAL MARITIME INDUSTRY AND FEDERAL SUBSIDIZATION PROGRAMS

The United States Government has never adopted a consistent transportation policy for all modes of transportation. Partial or full subsidization of the railways, airways, inland waterways and roadways has a bearing on the financial strength of US carriers using those facilities. The absence of a consistent policy confuses questions of equitable treatment for all segments of the American transportation industry by the federal government. One might argue, for instance, that the maritime industry is due its cargo preference laws because the airline industry receives subsidies through operation of the airways by the Federal Aviation Administration. Continuing this line of reasoning, one would be forced to conclude that not to subsidize shipping would create competitive imbalances domestically. That is but one example of the complexities and inequities which regulation seems inevitably to engender and it helps to explain why our maritime industry has been embroiled in controversy for the last 100 years.

Controversies have arisen partly because the federal government has subordinated normal economic forces to those of national security. Two fundamental issues in the shipping industry exist:¹ (1) Can the government unilaterally regulate businesses competing in an international market without crippling them? (2) Does the maritime industry differ enough from other domestic business to warrant special treatment in terms of cargo preference and antitrust laws? Interest groups in the past have applied political pressure to bring about change in a disjointed fashion and this is reflected in key maritime legislation of the 20th Century.

Shipping Act of 1916

Some current regulatory policies of the federal government are still rooted in the Shipping Act of 1916 which exempted the liner industry from some antitrust provisions. Groups of ocean going carriers were permitted to organize into conferences and collectively set rates, limit competition, pool earnings and jointly establish shipping schedules.²

The 1916 Act did, however, attempt to preserve competition in limited ways. Conferences could not

conspire to prevent entry into the industry, nor construct unreasonable barriers to joining a conference. Deferred rebates to encourage exclusive use of a particular conference were outlawed. Fighting ship tactics could no longer be employed. (Fighting ships were vessels offering cutthroat rates that were berthed simultaneously with, and in close proximity to, a competitor. Losses from fighting ships were absorbed by all members of the conference.)³

The Federal Maritime Commission (FMC) was created in the 1950s to administer federal maritime law. Carriers and conferences were required to file agreements and tariffs with the Commission. The FMC was given the authority to disapprove requests from carriers deemed unjustly discriminatory to shippers or other carriers.⁴ It also regulated foreign flags dealing in US crosstrades.⁵

As the FMC became more involved in maritime activities, its hearings became more detailed and comprehensive, resulting in a lengthier litigation process. Practical interpretations of the Shipping Act of 1916 were difficult and confusing because the legislation contained no declaration of policy statement. Another factor complicating the regulatory process was political friction generated from the clash between antitrust law and

conference systems. Jurisdictions of the Justice Department and FMC overlapped, which added to red tape and frustration for private businesses.

The Shipping Act of 1916 could not give the FMC sufficient power to deal with foreign carriers, so other nations simply refused to cooperate with the Commission. Their governments enacted laws to block US access to information pertaining to their industries.⁶ It was, therefore, not possible for our regulatory bodies to judge what was fair and equitable in the international business arena. American shipping companies suffered because they were subject to the workings of a system that was inadequate both at home and abroad.

Shipping Act of 1984

The Shipping Act of 1984 addressed these weaknesses and better defined Congressional intentions with respect to antitrust provisions and regulation of the maritime industry. The role of the FMC was clarified and its powers increased to enable it to fulfill its regulatory responsibilities.⁷ Intervention by the Department of Justice into maritime affairs was restricted. The Commission was granted the authority to regulate intermodal

cargo. It became much easier to fine and restrict foreign flag vessels involved in US crosstrades. The FMC was given the authority to impose civil penalties up to \$25,000 per violation against any common carrier, foreign or domestic. It was also empowered to suspend tariffs for a period not to exceed 12 months, subject to the consent of the President.⁸ US carriers could then be better shielded from unfair treatment by foreign governments or ship lines.⁹

So, private carriers and conferences enjoyed some benefits from this new law. FMC litigation was streamlined. All proposed agreements became effective 45 days after filing with the Commission unless the FMC asked for additional information. But loyalty contracts and customer rebates were banned unless carriers could¹⁰ successfully petition the Department of Justice.

The major defect of the 1984 Act as it pertained to carriers was that it failed to address systemic problems within the industry. No measures to correct competitive imbalances in the world market were even attempted. Downward trends for American business have continued since the passage of this legislation.

But the Shipping Act of 1984 did benefit customers who ship in large volume. It became legal for carriers and shippers to enter into service contracts. Special contract rates and service agreements favorable to the shipper could be negotiated in return for minimum tonnage commitments over specified time periods. Another provision of the law also benefited large volume shippers. This was the right to independent action by individual members of a conference to set rates and deviate from published conference tariffs. The only requirement for the carrier was to give ten days prior notice to the FMC before the change could take effect. A final provision of the 1984 Act favored all shippers and had a depressing effect on tariffs. Individual carriers and conferences could no longer refuse¹¹ to negotiate with shippers' associations.

The Department of Defense is training its traffic managers and contracting personnel to capitalize on savings opportunities made possible by this new law. The government is receiving large reductions in costs; and that was accomplished without joining a shipper's¹² association. And these carriers are having to absorb the drop in rates without an associated reduction in their costs. American shiplines are having difficulty staying

afloat until the market stabilizes and, in fact, may not be able to do so.

Federal Subsidization Programs

Government subsidies to merchant marines around the world are nothing new. Historically, political and economic assistance to the world's most powerful fleets has always been necessary for their continued success. Today is no exception. All seafaring nations continue to provide some sort of aid to their commercial ships and/or shipbuilding industry. In the United States, it takes the form of construction-differential subsidies (CDS) and operating-differential subsidies (ODS). We also provide indirect assistance to ship companies with maritime cargo preference laws.

But, it is important to point out, our government differs from its counterparts elsewhere in its philosophy concerning subsidization. We discourage reliance on direct subsidies and encourage our businesses to find innovative ways to increase their productivity, competitiveness and financial independence. Companies which do accept subsidy payments are subject to stringent restrictions and guidelines they must follow for years to come. And the

subsidies are in no way a guarantee of profit for private

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business. Our government's relationship with the

American maritime industry is quasi-adversarial.

Washington readily acknowledges the need for a strong

merchant marine, but grudgingly gives only just enough

assistance to permit our private vessels to survive in the

international marketplace.

Federal subsidies are intended to help our ship companies achieve some degree of parity with their foreign competitors. But measuring parity is difficult because of the numerous variables involved. Companies overseas pay lower wages to their sailors and construction workers.

Their shipbuilding standards in terms of crew comfort and safety are lower, which translates to reduced fixed costs

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the industry has ultimately to recover. Amounts of

direct and indirect subsidization vary between nations.

Many communist and third world governments heavily

subsidize or even own their ship lines outright. Since

there is no common denominator among these variables, one

way to rank nations is to base their standings on the gross

national products of each. It makes sense that the richest

countries would have the strongest merchant marines. It is

however, not true in the case of the United States.

Direct Subsidization

The Maritime Administration (MARAD) has paid CDS and ODS money to private businesses since 1936. The CDS program is designed to offset the high costs incurred by domestic shipbuilding companies while building vessels in the United States instead of overseas. Likewise, ODS partially reimburses ship operators for the difference between regulated domestic operational costs and the largely unregulated costs incurred by foreign competitors.¹⁵ Both programs are designed to allow American shipbuilders and carriers to charge prices and rates that are competitive worldwide. Even so, for reasons to be elaborated upon later, American business has priced itself out of the international market. But more federal subsidies may not be the solution to the problem that poses.

Until 1975, Congress permitted MARAD to reimburse US shipbuilders an amount up to 55 percent of their domestic costs. The Merchant Marine Act of 1970 reduced this percentage, effective in 1975, to a maximum of 35 percent for cargo ships and tanker construction and 17 percent for liquefied natural gas carriers. Congress had to increase

these figures to 50 percent, because American builders were¹⁶
losing practically all their business to foreigners.

Even so, CDS outlays have dropped almost steadily since 1936. No CDS monies have been paid since 1982, compared to \$101.4 million in 1961 and \$218.5 million in¹⁷ 1977. This reflects the steady drop in demand for American made vessels for a variety of reasons such as the growth of our FOC fleet (composed primarily of foreign made vessels), the decrease in demand worldwide for new vessels because of overtonnaging problems (to be discussed later) and, most importantly, the high price tag of American ships (even with CDS assistance).

Despite our regulatory efforts, the US shipbuilding industry has continued to atrophy to the point where the industrial base necessary to support a prolonged conflict is almost gone. The number of skilled workers employed in shipyards has declined, since 1982, by 28 percent, or 52,500 men, to a current labor force of about 137,700. Department of the Navy contracts for about 90 percent of all work performed in private yards. Seventy-six companies have permanently shut their doors in the last five years. Of the 313 that still remain solvent, 259 of them--or 83

percent--do not have the facilities to dry dock even the
18
smallest of ocean going vessels.

According to the chart below, the total number of ships ordered since 1973 has for the most part declined. At present, the last order for a commercial American vessel is being filled. If no new orders are placed, no commercial ships will be built next year in the United States.

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Number of US Navy and Commercial Ships Ordered

<u>Year</u>	<u>US Navy</u>	<u>Commercial</u>	<u>Total</u>
1970	12	13	25
1971	13	23	36
1973	10	43	53
1975	21	14	35
1977	15	13	28
1979	18	21	39
1981	19	9	28
1983	14	4	18
1985	22	0	22
1987	19	0	<u>19</u>
			303

As evidence that these problems are known to our national leadership, one can cite the fact that the Commission on Merchant Marine and Defense has recently recommended to the President of the United States a
20
"national program for merchant ship construction". According to the Commission, the federal government needs to take an active role in the revitalization of this

industry. Some of its recommendations are to step up ship procurement by the Maritime Administration and to continue the financing of ship lines that are attempting to upgrade or add to their fleets. The Commission went a step beyond commercial vessels by recommending the government contract to build warships for sale or giveaway to allies

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overseas.

Operating-differential subsidies help American ship companies achieve parity with foreign competition in the specific areas of crew wages, vessel insurance and maintenance costs borne by the carrier.

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When ODS money is accepted, businesses also take on long-term obligations to implement some expensive ship replacement programs. Companies must set aside a percentage of their revenues in capital reserve funds. This ties up millions in profits and reduces management flexibility in an extremely competitive and volatile market. Ship operators must also sail on certain routes and are given schedules they must follow.

23
Annual ODS outlays have fluctuated since 1936. For the last 26 years, the average amount has been \$267.9 million per year, but the outlays have declined significantly for the last five years--from \$400.6 million

in 1982 to \$287.7 million in 1986. Even though the 1986 ODS outlay is above the 26 year average, the purchasing power of those 1986 dollars is not as great as smaller amounts years ago.

This money can never be recouped by the government; nor was it ever intended to be. Given the budget battles, between the legislative and executive branches, and current economic conditions it is unlikely that CDS and ODS will be increased to the levels our carriers need to achieve parity. Meanwhile, our merchant marine is continuing to deteriorate.

One way to get the most effect of the ODS money would be to eliminate the federal restrictions on routes, schedules and investments. Congress could agree on a ceiling for direct subsidies and split the appropriated dollars among participating US companies. (The system based on percentages of costs incurred would then be eliminated.) To prevent fly-by-night organizations from swooping in for a free lunch, strict eligibility requirements to receive subsidy payments also would be required. Gross deadweight tonnage carried the previous year could be one basis for allocating subsidies to private carriers. The more work a business performs, the more

subsidy it would receive. Such an approach would not cost the taxpayer any more, but would result ultimately in a healthier US industry and less drain on the US Treasury, if the industries ever get back on their feet.

Indirect Subsidization

The United States' maritime cargo preference laws originated with passage of the Military Transport Act of 1904. This Act stated US flag carriers have first claim to all cargo procured for, or owned by, the Department of War-²⁵ now, the Department of Defense (DOD). Three exceptions to this law exist. They occur whenever: (1) American carriers are not available, (2) American carriers cannot meet urgent military requirements²⁶ and/or (3) applicable American tariffs are excessive or unreasonable, as determined by the President of the United States or his²⁷ designated representative. Only under these conditions may US Government officials contract with foreign flag carriers for military cargo.

Two other cargo preference laws have been legislated since 1904. The Cargo Preference Act of 1954 (Public Law 83-664), with its amendments, requires at least 75 percent of government cargo to be shipped aboard US flag vessels.

The law applies to all cargo which has an agency or department of the federal government listed on the bill of lading as the consignee or consignor, regardless of its origin or destination. (The US Congress has exempted foreign military sales from these requirements as a gesture of goodwill to our allies.) Fair and reasonable rates must apply. The final preference law is Public Resolution 17 of the 73rd Congress. It reserves all Export-Import Bank (EXIMBANK) cargo for American vessels, given fair and
28
reasonable rates.

Preference Laws Throughout the World

Even if the federal government were determined to eliminate all forms of subsidy to the US maritime industry, some action would still be necessary in order to create a more equitable situation for our carriers in the world market. Sweeping changes would be needed in the areas of regulatory requirements, labor law and, perhaps, safety. Efforts can be made, however, to sort out truly nonessential requirements from ones with substance.

Less stringent federal requirements are a delicate political issue but one which, if properly dealt with, can place American business on a more nearly equal (and,

therefore, more competitive) footing internationally. A comprehensive approach, immune from special interest group lobbying, is what is necessary if a laissez-faire solution is to succeed. But, perhaps, the federal presence is so pervasive in our society that our public and private sectors have become inextricably interwoven. Laissez-faire may have passed beyond the pale, politically.

Free trade and free enterprise remain principles which many Americans cherish. But even if those values could be fully realized within our own borders, the fact would remain that the rest of the world does not adhere to our standards. The rationale for deregulating the domestic American trucking and railroad industries, for instance, cannot equitably be applied to ocean going carriers subject to economic disadvantages arising from the maritime policies of foreign governments. Other countries will continue to subsidize their maritime industries because they are valuable national assets. Their governments seek the repeal of our preference laws, even threatening political action, in order to capitalize on the lucrative opportunities awaiting. Our military cargo is particularly attractive in times when there is a worldwide depression in the shipping industry. However, what motivates other countries is not always in our best national interest.

Endnotes

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CHAPTER 4

THE INTERNATIONAL SCENE

The international market for the shipping industry has, for years, been extremely volatile. Competition has been fierce, overtonnaging persistent and rates depressed. Repeal of US cargo preference laws and federal subsidization programs would have an even more destabilizing effect.

The overtonnaging problem has plagued the market since the end of World War II reconstruction when Germany, Italy and Japan returned to positions of prominence in world trade. The large scale entry of Communist bloc nations during the 1960s further increased the number of ships competing for limited cargo. Soviet maritime fleets¹ have continued to grow in dramatic contrast to ours. This is explained by the Soviet's disregard of the profit motive (which, in this case, amounts to a subsidy for their shipping industry), their state ownership and their desire² to gain hard foreign currency. Soviet ships have access to cheap oil from the motherland, pay low crew wages, are subject to lower safety standards, are not taxed or³ depreciated and are insured by the Russian Government.

And their concept of sea power does not fail to take into account the ability to resupply their military forces with their own vessels. Another contributing factor to overtonnaging is the introduction of containerization in the 1960s. This development prompted many carriers to commit enormous amounts of capital to container systems and⁴ their specialized ships.

A lack of cooperation between industrialized nations has contributed to an estimated 30 percent overtonnaging in container fleets throughout the world. (And most of this excess tonnage has been put into US trade.) Container traffic in Western European ports rose only 8.2 percent during the period 1980 to 1984, and 7.3 percent from 1984 to 1987. World figures rose only 9.6 percent and 7.2 percent during these same periods. However, the world container ship fleet expanded 23 percent in the last two⁵ years alone. Imbalances in supply and demand for maritime services depressed rates further and stimulated more cutthroat competition for an already short supply of cargo.

European governments have recognized the need for a more balanced world market. They have, for several years, been less eager to subsidize their shipbuilding industries

and contribute even more excess tonnage to the world
⁶
 fleet. This is reflected in the figures below. The
 effects of a diminishing American fleet in past decades can
 be seen in the declining annual change column. The price
 democratic nations are paying for a more orderly market is
 a reduction in their combined logistical power.

⁷
Development of the World Fleet

<u>Year</u>	<u>DWT (Millions)</u>	<u>% Annual Change</u>
1970	338.8	
1977	648.8	6.7%
1978	670.4	3.3%
1979	681.5	1.7%
1980	690.9	1.4%
1981	697.2	0.9%
1982	702.0	0.7%
1983	694.5	-1.1%
1984	683.3	-1.6%
1985	673.7	-1.4%

Meanwhile, Communist Bloc nations have dramatically
⁸
 increased their cargo fleet since 1970, but that growth
 is concealed by a decreasing rate of annual change for the
 overall world fleet. Likewise, developing nations, to
 which we have given significant funds, have subsidized
 their maritime industry, and some have steadily increased
 their number of cargo ships. These weaker economies are
 attempting to bolster their employment situation, stabilize
 their currency, keep interest rates under control and
⁹
 increase production. The decision of the free world not

to match those initiatives will likely result in a continued downward trend in the deadweight tonnage of its fleets.

The United States, if it should pursue an open market policy for its maritime cargo, would contribute to the overtonnaging problem already plaguing the US trades. If DOD cargo were openly offered overseas, foreign companies would maintain or increase their fleet sizes to absorb this additional tonnage. To repeal our cargo preference laws now would amount to teasing a pack of hungry dogs with a single bone.

The world market has been volatile in past years. US imports have outpaced the growth in our exports, while the opposite has held true in Japan. Members of the Organization of Petroleum Exporting Countries (OPEC) cut their imports by almost 25 percent between 1982 and 1985.¹⁰ Trends such as these have wreaked havoc with international supply and demand including maritime shipping.

Fierce competition has ensued in European-Middle East trade. Cargo volumes have declined over the last five years as a result of cheaper oil prices and the Iran-Iraq

War. In North Atlantic trade, the weakening US dollar and resulting reduction in European export shipping to the United States and Canada in 1985 resulted in further¹¹ overcapacity and rate reductions for those trade lines.

Whatever small advantage the US may have had is being dissipated because foreign lines are now adopting measures similar to those already incorporated into American shipping practices. Cooperative agreements are being formed, vessels shared and shipping schedules¹² rationalized. And, of course, foreign interests are trying to break into new markets such as our lucrative DOD¹³ oceanic freight. (As previously explained, cargo generated by foreign military sales can be exempt from US cargo preference law, depending on the terms of the sale. The Department of Defense's responsibility for shipment ends at the seaport of embarkation within the Continental United States.) Congressional action such as the Food Security Act of 1985 angers and frustrates foreign carriers. This legislation increases the percentage of food aid cargo for which US carriers receive preference¹⁴ protection. Other countries consider such laws discriminatory and, no doubt, will continue diplomatic pressure for their repeal.

Unfair Trade Practices

Much media coverage has been focused on unfair trade practices of foreign powers. US industry in the areas of steel, automobiles, electronics and textiles have all charged that imports are being dumped here at home at prices well below those charged in the countries of origin. They also claim foreign governments have erected barriers to the sale of US exports overseas. These controversial practices clash with free trade policies of the United States.

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Similarly, there are unfair trade practices in the world maritime industry which are more subtle but which are just as damaging to American business. The Maritime Administration is attempting to correct them, expand competition in ocean shipping and resist protectionism.

Japan has restricted and delayed approval of modern container berths in their country. Until 1986, they prohibited the use of our "high cube" containers on their highways ("high cube" means nine feet, six inches in height, or one foot taller than conventional containers). This protective legislation prevented our flag lines from reaping the benefits that higher volume containers offer.

In South Korea, US carriers cannot act as their own shipping agents and the Koreans restrict shoreside operations in the areas of stevedoring, trucking and warehousing. Taiwan poses similar problems to the US maritime industry.¹⁶ Other countries levy special taxes on intermodal operations and block our efforts to repatriate their earnings.¹⁷

The United States Government opposes the United Nations Convention on a Code of Conduct for Liner Conferences, better known as the UN Liner Code. This agreement establishes a goal of allocating cargo on a 40-40-20 basis. Each trading partner receives approximately 40 percent of the tonnage with the remaining 20 percent going to a third flag carrier. Our government contends this approach is unwise since it increases the involvement of world governments in shipping industries. It ultimately promotes protectionism, the operation of state owned fleets and passage of protective legislation.¹⁸

Member countries of the European Economic Community (EEC) have become contracting parties to the UN Liner Code pursuant to their adoption of the "Brussels Package". Our government continues to oppose these agreements. According

to the "Brussels Package", developing countries would receive 40 percent of the bilateral trade between an EEC country and the developing country.¹⁹ (EEC nations extend this 40 percent as a gesture of goodwill, which enhances diplomatic relations with the third world.) The remaining 60 percent is then opened to carriage by other flags.

France has been blatant in her protectionist measures. The 50 percent rule requires half of all vessels entering her ports to be of French registry. This motivated Sealand to register three of their ships with France.²⁰ Such action is to our detriment because the United States has no effective US control (EUSC--see Glossary, Appendix A) treaty with France to regain control of these assets in time of national emergency. Given the latter's temperament and historical inclination for independent action, we might not see these ships if we ever need them.

Perhaps the worst violator of fair play and free trade is the Soviet Union. They have continued to expand their merchant marine far beyond any domestic requirements. In 1977, the Soviets possessed 3.2 percent of the world's shipping assets, and its foreign trade was

approximately 20 percent that of the United States. Over the next five years, their trade did not grow as quickly as most other developed countries. The Soviet fleet, however doubled to seven percent while her trade was only 25 percent of ours.²¹ The Organization for Economic Cooperation and Development blames the Russians for many of the current overtonnaging problems and their lack of a "real willingness to reach an equitable compromise with Western lines".²²

Flooding the world market with excess ships-- "dumping"--is not the only way Russia plays havoc with international rate structures. Because Communist owned lines do not operate with a profit motive, they consistently undercut their competitors' rates in order to increase their market share and defray operating costs. While encroaching on free world markets, the Soviets have effectively closed their own. Russian traders insist on the use of Soviet ships. Sixty to 90 percent of their imports and exports are now carried by their merchant fleet²³ compared to less than the four percent of our trade which moves on American vessels.²⁴ Allen Dulles as the Director of the Central Intelligence Agency commented years ago on the Soviet economic threat, "...they will buy anything, trade anything and dump anything if it advances

Communism and helps destroy the influences of the
25
West".

Monetary and Nonmonetary Incentives in the International Industry

In fact, the profit motive operates in relatively
few maritime businesses competing in the world market
today. Those companies carry the flags only of nations in
Western Europe, the United States, Japan, Hong Kong,
26
Taiwan, Malaysia and Singapore.

Efficient operations are crucial for carriers
attempting to earn profits. One way to measure efficiency
is to total all costs incurred by the operator and then
calculate the cost per nautical ton mile. The most
sensitive variable effecting efficiency is ship
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utilization. Filling a vessel to capacity will spread
costs over the greatest amount of tonnage and achieve the
lowest cost per nautical ton mile. Utilization is also
directly linked to the amount of revenue generated and
determines where a business operates in relation to its
28
break-even point on any given voyage.

American carriers must operate more efficiently than
their foreign competitors to recover higher labor costs and

greater capital outlays. The US fleet is composed of ships that are generally larger, faster and more technologically advanced than their counterparts elsewhere in the world.²⁹ Utilization in terms of filling to capacity is³⁰ directly linked to our efficiency and profitability.

Because the Soviet Union and developing countries do not operate for profit, their concerns lie with other monetary incentives which include generating foreign exchange, influencing tariffs, increasing employment and controlling essential imports. Nonmonetary incentives for them include contributing to their technological base, increasing their prestige internationally and bolstering³¹ their national defense.

Foreign industries receiving substantial amounts of government subsidization have little incentive to minimize total costs. Yet, they are able to sell themselves to shippers as the lowest price--not lowest cost--³²carrier. These artificially low rates are subsidized by their governments and enable carriers to continue service while operating at or below their true break-even points. That hurts American business. Potential cargo is attracted away from US ship lines, which operate efficiently only at high levels of utilization. And US

businesses seldom get the chance to operate at their maximum efficiency because artificially low rates elsewhere undercut their utilization.

Foreign companies enjoy many advantages not available to Americans. Carriers not required to generate a profit are virtually immune to the economic effects of competition. An environment has been created in which the less efficient can drive the more efficient out of business.³³ Even those of our foreign competitors which are privately owned and operate under the profit motive, enjoy lower operating costs and less costly capital outlays than do we--a result of our own government's regulatory requirements.

International Rate Structures

One factor in establishing rate schedules worldwide is the concept of marginal pricing, which involves fixed and variable costs. When a carrier notifies potential customers of a sailing date, a commitment has been made up front to provide that service. All but two variable costs become fixed at this point, and those are cargo handling charges and agency fees. They remain variable because they depend on the amount of cargo generated.³⁴ Fixed costs

include operating expenses (crew salaries, subsistence, maintenance, repair parts, port costs, fuel, insurance, etc.) and nonoperating expenses (container and terminal fixed expenses, overhead, depreciation, interest, container leases, etc.).

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The ratio of fixed to variable costs is much higher in the maritime industry than in other transportation industries. Furthermore, those costs are determined at a time when there is no guarantee of any revenue at all. The result is a strong incentive for carriers throughout the world to price their rates marginally. That is, any rate which covers total variable costs and contributes toward the payment of fixed costs is acceptable to the carrier. Even though this approach places the shipper in a favorable bargaining position, transporters do seek a profit margin. Therefore, carriers do not price their services based on variable costs from just one, two or three voyages. Instead, only those marginal prices that are competitive among carriers throughout the maritime industry are eventually adopted into the international rate structure.

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Another factor in establishing rate structures is an internationally accepted practice called "value of

service". That is, rates are directly correlated to the market value of commodities being transported. It is impossible for a country or a particular company to calculate and record actual carrying costs upon which to base rates. There is an almost infinite number of carriage cost variations for cargo with different sizes and configurations.³⁷ So the "value of service" device helps keep the tariffs somewhat aligned and competitive throughout the industry. The United States also uses "value of service" in its rate structure, but nevertheless charges rates (for reasons discussed earlier) that are proportionately higher than any other country.

Rate structures are also based on competitive bargaining between carriers--whether subsidized or not--and prospective shippers. Conference systems worldwide help stabilize rates because they encourage member organizations to charge approximately the same amount for similar services.³⁸ (Their rates, however, still have to be competitive with other conferences and independent ship lines elsewhere in the world. American companies have not been able to achieve this for reasons previously discussed.) Independent operators and renegade conference members attempting to undercut rate structures cannot survive for long, unless they are heavily subsidized and

are not required to earn a profit. Rate competition has depressed tariffs to the point where profitability is difficult to achieve.

Foreign flag ships can survive more easily than US ships under today's conditions of low marginal pricing and depressed rate structures. US firms must, at least, recover fixed and variable costs to break-even. (Our tariffs, which are understandably higher than the rest of the world's rate structures, are also based on a foundation of marginal pricing, value of service and competitive bargaining.) Meanwhile, totalitarian regimes of the world continue to build up their state owned ship lines. American industry is clearly at a disadvantage.

Some US corporate leaders, to include the former President of United States Lines, Edward J. Heine, Jr., contend the Russians are determined to control world shipping.⁴⁰ They are doing so by systematically undercutting the international rate structure. Their tariffs are consistently ten to 35 percent below those of their Western competitors.⁴¹ Once the competition has been driven out of business, the Communists would have a virtual monopoly on merchant shipping, and could exploit their position to further their own interests.⁴² It is

unlikely that free world governments would capitulate and allow their fleets to go under totally. But the Soviets' game plan has so far been effective. They have created a near oligarchic market where their adversaries have suffered economically. Worse yet, the ships of democratic nations are not as plentiful as they once were for use in an emergency and their shipbuilding capabilities have slipped into a state of disrepair.

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CHAPTER 5

SOVIET MERCHANT MARINE

To fully grasp the deterioration of the US Merchant Marine, it needs to be examined in relation to the other superpower's fleet. The Soviet Union places a great deal of importance on their merchant vessels, and indeed, the United States could learn lessons about logistical preparation for war from them.

At the end of World War II, the Soviet commercial fleet consisted of 573 vessels that displaced less than two million deadweight tons. Her shipbuilding industry was destroyed during the German occupation of her key port cities. The United States on the other hand, had 4,861 merchant ships and over 50 million deadweight tons. The Russian fleet was almost nine times smaller and 20 times¹ lighter in tonnage than ours.

The Soviets have since then made a conscious, determined, effort to build their merchant marine beyond any present day domestic requirements. Nikita Khrushchev in 1957 made clear Soviet intentions toward the United

States when he publicly stated, "We declare war upon you--excuse me for using such an expression--in the peaceful field of trade.....We are relentless in this, and it will prove the superiority of our system."²

Their fifth Five Year Plan (1951-1955) increased shipping capacity by 630,000 dwt.³ From 1958 to 1967, their fleet grew over seven million dwt to a total force exceeding 2,000 ships and ten million dwt.⁴ Deadweight tonnage alone increased at least tenfold during the 15 year period 1951 to 1966.⁵

During the period 1966 to 1986, the USSR has continued to build its merchant fleet. The number of ships did not increase drastically, but their size and technological efficiency jumped considerably. As of January 1, 1986, they ranked second among maritime nations of the world (in terms of number of merchant ships) with 2,514 oceangoing vessels that exceed 1,000 gross tons and total 24.9 million dwt. This compares to a fourteenth place United States with 477 privately owned ships that total 21.2 million dwt. (In terms of deadweight tonnage, the USSR ranks fifth and the United States sixth, as of January 1, 1986.)⁶ Not included in the figures above are the world's largest fishing and research/hydrographic

fleets--which belong to Russia. These additional 4,959 ships, which they consider part of their merchant marine,⁷ also have military applications.

The Soviets lead the United States in key power projection categories: troop carriers 4.5 to 1 (passenger billets); Ro/Ro 2.2 to 1 (dwt); freighters 3.9 to 1 (dwt); bulk carriers 8.6 to 1 (dwt); and tankers 1.5 to 1 (dwt). The United States leads in only one area. We outnumber the Russians 13 to 1 in lighter-carriers (LASH/Seabee).⁸

The growth of the Soviet Merchant Marine has kept pace with the increase in their navy. For the first time in Russian history, they have moved beyond a coastal defense to a blue water, offensively oriented navy. They have recognized the need for a strong merchant marine to support their fighting ships and future land campaigns wherever they might be. It appears that the Soviets placed primary importance on the military value of their merchant fleet above all other considerations.⁹

Differences Between the Soviet and American Merchant Marines

A major difference between the two countries is their maritime strategy. The Russians have a highly

structured approach to their merchant marine as part of their overall maritime system. Everything they do supports their grand strategy for world domination. The Soviet merchant marine complements their naval strength and contributes to long term political/economic goals.¹⁰ An indication of the importance the Russians place on their merchant marine is massive subsidization of the industry. Whatever money they pump into shipping is not available for the remainder of their defense establishment.

The United States on the other hand, has no¹¹ cohesive, national maritime policy. There are numerous government agencies which regulate our industry. Legislation is passed by Congress after problems reach crisis proportions. Our elected leaders are influenced by the political winds blowing at the moment. Competing interests result in compromise solutions and disjointed, shortsighted policies.

The Soviet's 20th Party Congress consolidated all commercial shipping activities in 1956 and placed them under the control of the newly established Ministry of Merchant Marine. This ministry reports directly to the Soviet Politburo. It has regional organizations in Murmansk, Leningrad, Odessa and Vladisvostok which control

16 shipping lines. The Ministry of Merchant Marine is also responsible for other state controlled operations to include: all port operations, ship construction and repair, research activities and merchant marine training facilities.¹² Their approach to shipping may be a sprawling, bureaucratic one, but at least the government attempts to focus and coordinate its efforts. The United States has no such equivalent organization.¹³

No agency of the US government is responsible for coordinating all of the many and diverse US maritime arms--merchant marine, foreign trade, foreign affairs, fishing fleet, Coast Guard, and Navy--to permit the United States to compete, or even cope, with the continuous pressure of the Soviet campaign. Major US maritime assets, particularly foreign trade and the US merchant marine, are, in short, not included in US national security planning. (14)

Another difference between Soviet and American fleets is the age of vessels. The Russians have one of the most modern fleets afloat. The average age of their commercial vessels is 15 years compared to ours which is 25 years.¹⁵ The Soviets' shipbuilding industry is producing at full capacity to replace aging vessels whereas ours are floundering economically due to the lack of business.¹⁶

The Soviets have made a conscious effort in recent years to improve the quality of their merchant fleet. No

growth is planned, however, in the number of vessels for their 1986 to 1990 Five Year Plan. They are replacing the older, obsolete ships with newer, more specialized ones. They hope to increase the efficiency of their shipping operations.¹⁷

Another difference between American and Russian merchant fleets is the use of flags of convenience. Soviet ships are owned and crewed by Soviets. They fly the hammer and sickle compared to hundreds of American vessels that fly foreign flags and employ foreign crews.¹⁸ The Russians do not need an effective control program such as we have with FOC countries. (Our effective control program to regain control of US majority owned vessels in time of national emergency is discussed in the following chapter.) Communist bloc countries maintain tight control over their highly prized maritime assets. And they continue to develop these assets with military requirements in mind. Economic considerations take a back seat.

Economic Considerations

A strong merchant marine bolsters a country's international prestige and reinforces its presence throughout the world. These are strong motivations for the

Soviets who continue to build up their fleet. They seek the respect of the rest of the world and want their reputation enhanced as a global economic power.

Their merchant marine provides a way for them to encourage the economic dependence of the third world. Low maritime rates attract poorer economies with no indigenous merchant fleet. Low Russian tariffs enable these emerging nations to keep their total costs down, which in addition to cheap labor, make their products more competitive overseas. In countries where a manufacturing base is practically nonexistent, the Russians donate heavy machinery. The Communists barter for raw materials and finished products, using their merchant ships as import/export vehicles. The more disadvantaged countries are soon dependent on the USSR for machine repair parts, import goods, export markets and cheap maritime transportation. They become susceptible to diplomatic¹⁹ blackmail and eventually bend to the Soviet will.

This is in sharp contrast to the United States which provides foreign aid for humanitarian causes with few strings attached. We rely on the integrity of the recipients to dispurse the aid in accordance with our intentions. Our way guarantees little future influence

with the supported governments as is evidenced daily at the United Nations. American goodwill continues to be cheapened around the globe as foreigners continue to milk the US taxpayer. We could adopt an approach similar to that of the Russians'. Subsidizing our rates on a selected basis would make our fleet more competitive while ensuring continued influence in the third world.

The Soviet merchant marine has taken an active role in supporting its surrogate powers and in attempting to subvert the West and poorer nations around the world.²⁰ It has kept the Communist government alive in Cuba for decades. Castro's military activity in Ethiopia and Angola has been dependent on Russia's merchant fleet. The North Vietnamese were also resupplied throughout their war with France and the United States.²¹ Today, the US press reports Soviet merchant ships regularly visit Nicaraguan ports with military and industrial support.

A large merchant marine serves two additional purposes for the Soviet Union. It keeps their shipyards active to allow for more rapid expansion in time of war.²² And the fleet makes it easier to readily transport products the USSR needs from the West--grain,

technology and consumer durables--without having to be
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dependent on Western transport.

Military Applications

The Soviets treat their merchant marine as the fourth arm of defense after their army, navy and air force. They have purposely constructed and maintained a wide variety of ships to meet any military
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contingency. The United States has let some categories of merchant vessels almost die out, with total disregard for future military requirements. Passenger ships are a case in point. Obviously we will need this type of vessel during any large scale, prolonged conflict. Russia has more than 70 of the vessels, in excellent condition and designed for ready conversion to troop ships. Each one can carry 700 to 800 passengers and a greater number of
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soldiers once converted. The United States has only two passenger liners in her active fleet, each with a
26
maximum capacity of 6000 troops.

Roll-on/roll-off (Ro/Ro), lighter-carriers and general cargo ships with independent load/off-load
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capability are ideally suited for military operations. Ro/Ro allows track and wheeled vehicles to off-load much

faster than conventional vessels. Because the equipment is in operational condition, it can depart the port of debarkation quickly and minimize any congestion. Ro/Ro vessels can use crude port facilities that lack cranes and other material handling equipment. All that is necessary²⁸ is a dock or wharf upon which to drop the ship ramp.

The Russians currently have enough Ro/Ro and²⁹ lighter-carriers to deploy five tank divisions. These vessels provide them the capability to support amphibious operations aimed at seizing strategic chokepoints that could bottle up their navy--the Danish Straights (Kattegat and Skagerrak), the Greenland-Iceland-UK Gap (to include Northern Norway), Bosphorus, Dardanelles and La Perouse³⁰ Straight.

General cargo ships are becoming increasingly rare in the American inventory, but this is not the case with Russia. Theirs have been fitted with heavy lift booms and³¹ outsized hatches for military cargo. (They assume that ports in a theater of operations will have their port cranes disabled or destroyed.) These conventional vessels also give the USSR the capability to trade with third world³² countries with puny port discharge capabilities. The real value of these ports is usually not for trade, but for

the strategic location. The shipping trade is one more means of extending the Communist sphere of influence around the world.

The Soviet Navy depends heavily on their merchant marine. The latter currently supplies 70 percent of the navy's fuel and a significant portion of the other classes³³ of supply. Their merchant ships are designed and built³⁴ to accompany fighting ships into hazardous areas. They are equipped with external washdown systems for nuclear or chemical decontamination. Mounts for air defense weapons have been fitted on some ships. Upper decks have already been reinforced to serve as platforms for attack helicopters and vertical takeoff and landing jets. The potential for conducting antisubmarine warfare is also³⁵ there. Timber carriers with their huge open wells can be converted to carry and launch missiles while under way. Or they could transport hydrofoils and air cushion vehicles (ACVs) to be used in amphibious or logistics over the shore³⁶ operations in a distant theater.

Merchant vessels participate in naval support operations. Crewmen of merchant vessels and warships are regularly exchanged to cross-train seamen and accomplish strategic objectives. Merchant tankers and general cargo

vessels serve as underway replenishment ships for the

³⁷
navy. They can enter ports for provisioning where Soviet warships are denied access. Some vessels are loaded with information gathering equipment, and can gather communications and electronic intelligence in port and at sea. They have spied upon and disrupted our naval

³⁸
maneuvers in the past. Merchant vessels can be used to sow minefields and block ports, harbors and strategic chokepoints. And, because their communications systems are tied into the Russian Navy, they are used to assist naval
³⁹
vessels in distress.

Merchant vessels can also be used in deception operations--what the Russians call maskirovka. The Soviets are masters in the art of deception and practice it today throughout the world. Merchant vessels can be used to infiltrate spies, saboteurs or arms for revolution into a
⁴⁰
target country's port or make dropoffs close to shore.

The Washington Times has reported Russian commandos in merchant vessels operating inside Sweden's territorial
⁴¹
waters in a "flagrant violation of international law".

Merchant ships can also be used to hide the signature of
⁴²
submarines or ground forces below decks. These vessels could be deployed to key positions around the globe prior

to the initiation of conflict and without arousing suspicion.

The Russians are loading vessels and prepositioning them as we are, in strategic locations for use in war. War materials can be transported in almost complete secrecy as was the case with missiles during the 1962 Cuban missile crisis,⁴³ the recently thwarted arms buildup in Grenada and support to Nicaragua.

Soviet hydrographic survey ships or specially equipped merchant ships can enter politically sensitive areas like Sweden's fiords for seemingly peaceful purposes. But in reality they can be taking Bathy-thermograph readings and bottom contours for use in submarine and mine warfare.⁴⁴

Because the USSR is rich in natural resources and raw materials, she is for the most part, self-sufficient in strategic minerals necessary for her war industries. And because she is deployed on interior lines, most, if not all, of her merchant marine can therefore be used to directly support military operations. This is not the case with the United States. Part of our navy has to be dedicated to keeping the sealanes open.⁴⁵ Our imports of

columbium, sheet mica, strontium, manganese, bauxite,
cobalt, chromium, tin, nickel and tungsten have to remain
unobstructed if we are to manufacture the goods to sustain
any large scale war effort. ⁴⁶ Our survival as a nation
may be dependent on our ability to do so.

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CHAPTER 6

NATIONAL DEFENSE

The Merchant Marine Act of 1936 stated in its declaration of policy:

It is necessary for the national defense and development of its foreign and domestic commerce that the United States shall have a merchant marine (a) sufficient to carry its domestic water-borne commerce and a substantial portion of the water-borne export and import foreign commerce of the United States and to provide shipping service on all routes essential for maintaining the flow of such domestic and foreign water-borne commerce at all times, (b) capable of serving as a naval and military auxiliary in time of war or national emergency, (c) owned and operated under the United States flag by citizens of the United States insofar as may be practicable, and (d) composed of the best-equipped, safest, and most suitable types of vessels, constructed in the United States and manned with a trained and efficient citizen personnel. It is hereby declared to be the policy of the United States to foster the development and encourage the maintenance of such a merchant marine. (1)

Federal law requires the US government to support our country's maritime industry in peacetime, justified on grounds of national security. The role of our shipping industry in national defense is an important one. It must be ready to perform logistical activity in direct support of military operations, and it must be large enough to

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support the domestic economy as well. Congressional intentions with respect to the US maritime industry were reinforced in the Shipping Act of 1984, which stated that one of the purposes of the Act was to "...encourage the development of an economically sound and efficient United States liner fleet capable of meeting national security needs".³

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The overwhelming bulk of tonnage supporting ground troops in an overseas theater of operations must come from ocean transport. This has been true of every conflict since the War of 1812. It even held true during the Berlin Resupply in terms of total US ton miles--surface and aerial--from American ports of embarkation to final destination. The Military Airlift Command (MAC) and Civil Reserve Air Fleet (CRAF) are assets of irreplaceable value in the initial stages of war, but they are dwarfed by total tonnage requirements necessary to sustain armies, navies and air forces throughout a sustained conflict.

Tonnage requirements during a partial mobilization are difficult to plan. There are numerous variables that remain unknown until the threat can be determined. The degree to which commercial life will be disrupted in support of military operations is unknown. The types of

ships required are contingent upon terminal facilities available at ports of debarkation inside the theater. Many container ships, for instance, have no inherent loading and off-loading capability. They require specialized port facilities.

During a full-scale mobilization, war plans would take effect and a series of events would ensue. Our normal commercial activity on the high seas would be suspended and imports necessary to sustain our war industries along with military requirements would take precedence. Maritime assets of allied nations might be at our disposal as soon as their economic and military conditions permitted, but we cannot be certain of that.

A study conducted by the National Transportation Policy Study Commission in 1979 concluded that all available shipping resources, to include North Atlantic Treaty Organization (NATO) reinforcements, are just enough to meet US shipping requirements in a full-scale mobilization. (The Commission based its study on the scenario of mobilization occurring prior to the outbreak of actual war. Its projections did not consider any combat attrition to our merchant marine.) Any reduction in our fleet size from 1979 levels, according to the study, would

result in severe shortfalls in unit equipment and all
classes of supply in the theater of operations. And, in
actuality, the size of our merchant marine has diminished
considerably since 1979.

The spirit of the Merchant Marine Act of 1936 and
Shipping Act of 1984 is not being upheld. Our maritime
capabilities have dropped significantly since 1979, which
is in stark contrast to the increased Soviet capability.
The sufficiency of our strategic sealift capabilities is
questionable at best.

Another delicate political question centers around
our limited maritime capacity. Soviet naval maneuvers in
the Pacific have demonstrated their ability to threaten
essential imports to our offshore states, the Commonwealth
of Puerto Rico and trust territories such as Wake and
Guam. Since our maritime assets will be spread thin even
in some partial mobilizations and, certainly, in any
full-scale mobilization, our political leaders will have
to decide to what degree logistic needs of our own offshore
citizens will have to be sacrificed. If there is
insufficient transport capability to support military
operations and our civilian populace simultaneously, the
government will have to make hard choices. Political

turmoil will be accentuated at the very time we would most need to be united.

To allow our maritime assets to dwindle away is gambling with the defense of the United States and its national security. Our allies may not be in a viable economic or military position to help support our troop requirements. Their leaders may not want to honor their treaty obligations, or may not be able to muster the national will to do so. Future logistical support of ground, naval and air forces is directly related to the strength of our maritime fleet. Military planners are expected to consider the worst case in every possible contingency. As a nation, we must do the same and plan to pull our own fat out of the fire. No others may be available or willing to do it.

Strategic Sealift

Strategic sealift is an important part of our country's maritime strategy. It cannot be considered alone if one is to understand its role in national defense. One must also consider our national military strategy and strategic mobility capabilities.

The US national military strategy emphasizes coalition warfare with our allies and joint operations with US sister services. The national strategy is built on a foundation of "deterrence, forward defense and alliance solidarity".¹⁰ Our political leaders believe a US presence throughout the world--economic as well as military--is the best way to achieve regional stability. A balance of power in the trouble spots of the world is particularly important if we are to minimize the possibility of war with the Soviets.¹¹

A strong, aggressive, maritime strategy adds credibility in political circles to US military strategy. Our maritime resources, to include the merchant marine, must be able to project our forces at the critical time and place in response to a crisis, maybe ending it before it leads to global warfare. Sealift is therefore critical to deterrence by providing a credible means of projecting combat power.¹² It is also essential to the other phases of the maritime strategy--seizing the initiative and carrying the fight to the enemy. Reinforcements and resupply have to remain continuous and uninterrupted just to enable our deployed forces to hold their ground until we can build sufficient strength to go on the offensive.¹³

Logistics have played a critical role in every war. This is particularly true with Americans past and present. Nathan B. Forrest, a Confederate cavalry general in the American Civil War, epitomized our concept of battle with the statement, "Get there first with the most men". (The erroneous version is usually rendered, "Git thar fustest with the mostest".)¹⁴ In World War II, sheer quantities of US soldiers and equipment turned the tide of battle in our favor. And today's airland battle doctrine makes us even more supply dependent. (Its increased tempo and emphasis on offensive operations will consume more supplies than the active defense it replaced.) The US merchant marine will therefore continue to play a critical role in future wars overseas.

The Joint Chiefs have known for years that our wartime logistical needs exceed our strategic transport capabilities. These shortages became most apparent during the Nifty Nugget exercise in 1978. Nifty Nugget tested NATO reactions to sudden war in Western Europe and stressed the need to deploy substantial quantities of men and equipment from the United States to the theater of operations. Serious coordination problems between the US Army, Navy, Air Force and Marines surfaced during the¹⁵ course of these exercises. It was obvious that the

strategies of the four services, and in particular the Navy's maritime strategy, would need refocusing to support the national military strategy. Indeed, reorganization within the Department of Defense (DOD) was necessary.

The Joint Deployment Agency (JDA) was established in 1979 to address these systemic weaknesses throughout the services. JDA's greatest contribution to US strategic deployment capabilities was the creation of the Joint Deployment System (JDS), a management information system that assists DOD transporters in planning, monitoring and executing force requirements needed overseas in peacetime and wartime deployment scenarios.¹⁶

JDA's greatest weakness, however, lay in its charter. As an agency of the Joint Chiefs of Staff (JCS), it lay outside the operational chain of command, as does the JCS, and both lacked the authority to correct systemic deficiencies that existed within and between the Transportation Operating Agencies (TOAs): the Military Sealift Command (MSC), the Military Airlift Command (MAC)¹⁷ and the Military Traffic Management Command (MTMC).

So, the United States Transportation Command (USTRANSCOM) was established in April 1987. It is a

unified command with the mission of providing "global air,
land and sea transport to meet national security
objectives" for the Defense Department. ¹⁸ It handles
strategic mobility planning and execution for all unified
and specified commands in the military. ¹⁹

USTRANSCOM absorbed the Joint Deployment Agency and
took responsibility for the JDS. It is anticipated that it
will also be given operational command this year over the
three TOAs which will then make it possible for one
commander to address systemic problems between the
services. The plan is for the TOAs to continue their
operational control over forces currently assigned to
them. ²⁰ The end result will be a unified command capable
of centralized planning and decentralized execution.
USTRANSCOM has, therefore, the potential to provide a
cohesive, efficient transportation system for the Defense
Department in peace or war--but it does not have the
necessary ships and without those, no amount of
coordination can get the job done.

Two of the three TOAs--MSC and MTMC--are involved in
strategic sealift, using commercial and government maritime
assets. MTMC is designated as the single traffic manager
for DOD and, as such, serves as the administrative

contracting authority for ocean going shipments. (It administers MSC dedicated contracts and agreements worldwide. MTMC also exercises commercial tariffs to move DOD cargo to ports not covered by MSC contracts and agreements.) It has Ocean Cargo Clearance Authorities (OCCAs) to book cargo on specific commercial vessels and to coordinate with private carriers to ensure that required delivery dates are met on DOD traffic. In addition, Military Traffic Management Command operates ocean terminals throughout the world that are used by more than
21
one US military service.

Military Sealift Command works closely with MTMC in dealing with our merchant marine. MSC is the primary contracting authority for ocean going DOD cargo. It writes and executes commercial shipping contracts/agreements for MTMC. MSC also settles disputes with private carriers
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arising from interpretation of these contracts.

Military Sealift Command

The mission of the Military Sealift Command is to "provide sealift for strategic mobility in support of
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national security objectives". Considering the progressive deterioration of our merchant marine, the

Secretary of the Navy, in 1984, designated strategic sealift as a primary mission of the US Navy, in addition to sea control and power projection.²⁴ MSC was charged with the responsibility of providing this sealift as part of our strategic mobility for the armed forces. In addition to its Strategic Sealift Force, MSC is responsible for operating two other forces at its disposal--the Naval Fleet Auxiliary and the Special Support Force.²⁵

The Naval Fleet Auxiliary Force comprises the largest part of MSC's nucleus fleet owned by the US Government. These vessels provide direct support to US Navy combatant ships worldwide. This force includes oilers, refrigerated stores, ocean going tugs, combat stores, ammunition ships, cable layers and ocean surveillance ships.²⁶

The Special Support Force provides the sealift required for scientific and other technical activities such as missile telemetry. Nineteen scientific ships are used to conduct oceanographic research, surveying and underseas surveillance.²⁷

Strategic sealift includes not only government owned ships but, more importantly, those of the merchant marine

as well. The Chief of Naval Operations has defined strategic sealift as:

...the afloat prepositioning and ocean movement of materials, petroleum, oil and lubricants (POL) and personnel, in support of assigned logistic support missions of the US Government, including the necessary cargo handling systems and personnel to insure delivery of cargo ashore. (29)

The Navy's Strategic Sealift Program attempts to complement, and not compete with, the civilian maritime industry. MSC contracts for commercial services and hires merchant crews. It maintains support vessels that are not available in the private sector.

The government owned vessels include fast sealift ships (FSS) which can travel over 30 knots per hour and are docked in key US ports awaiting orders. Aviation maintenance support ships are earmarked for Marine air groups while hospital ships can provide some medical facilities in areas where there might otherwise be none. Auxiliary crane ships can off-load breakbulk and containerships with no self-discharge capability. The National Defense Reserve Fleet, better known as the "dead" or "mothball" fleet, and the Ready Reserve Force are other government sealift assets.

The purpose of the Navy's program is to ensure sufficient assets are available to meet prepositioned, surge and resupply requirements. ³³ But, in the absence of a vigorous merchant marine, can the purpose be achieved? Probably not.

Currently there are three Maritime Prepositioning Ship (MPS) squadrons, loaded and in position around the world. They are contracted by MSC to civilian ship companies. Each of the MPS squadrons is designed to support a Marine expeditionary brigade (MEB) for 30 days. MPS One, with four ships, is stationed in the eastern Atlantic. MPS Two, at Diego Garcia, has five vessels and MPS Three, in the vicinity of Guam and Tinian, also has four ships. In addition to these assets, there are 12 other prepositioned ships, loaded with Army and Air Force unit equipment, at Diego Garcia. (These latter vessels were previously called the Near Term Prepositioning Force--since renamed the Afloat Prepositioning Force.) ³⁴

Surge requirements are a one-time calculation and will be met with every shipping asset then available. After surge requirements are fulfilled, almost all unit equipment and initial ammunition stockages will have been transported overseas. Tonnages could then settle down to

a steady flow of resupply and reinforcements, if there were sufficient vessels left to carry that steady flow.

Our assets would be called up in order: the MSC fleet to include prepositioned ships, the Ready Reserve Force and the National Defense Reserve Fleet (if sufficient crews could be found). A crucial role could be played by our privately owned fleets throughout the entire conflict, if only they were large enough. ³⁶ It is intended that sea transport start making a substantial contribution 15 to 20 days after the country is mobilized. ³⁷ But, as small as our fleet is, that may not be very realistic.

Sources of Strategic Sealift

There are 809 vessels in the Military Sealift Command (MSC), the National Defense Reserve Fleet (NDRF), Ready Reserve Force (RRF), US flag merchant marine and Effective US Control (EUSC) Fleet. (EUSC vessels are part of the Flags of Convenience Fleet and are discussed later in this chapter.) Those, in total, constitute our militarily useful, strategic sealift capability. And whether or not they would ever be available, in total, is by no means certain. Not only could the EUSC vessels be withheld by foreign governments, but ship numbers and

deadweight tonnages change continually as vessels enter and retire from these fleets. (Discrepancies will therefore exist between studies, depending on completion dates of the research conducted. The figures reported below are derived from two major government sources: the Military Sealift Command³⁸ and the Commission on Merchant Marine and Defense.³⁹)

MSC operates a total of 132 ships. 71 of which are strategic sealift assets and 61 of which belong to MSC's Naval Fleet Auxiliary Force and the Special Support Force.⁴⁰ Of the 71 strategic vessels, ten are government owned dry cargo ships in a reduced operating status, 37 are chartered dry cargo ships from the private sector and 24 are chartered tankers. The chartered assets are necessary to ensure uninterrupted service to geographical areas not served by US flag lines but where we maintain a military presence.⁴¹ The ships by type include:⁴²

- 8 Fast Sealift Ships
(T-AKR)--Government owned
- 2 Aviation Maintenance Support Ships
(T-AVB)--Government owned
- 12 Dry Cargo Ships--Chartered
- 13 Maritime Prepositioning Ships
(MPS)--Chartered
- 12 Afloat Prepositioning Force--Chartered
- ~~24~~ Tankers--Chartered
- 71 Total MSC strategic sealift vessels

The NDRF has over 200 ships in its "dead fleet", but only 141 are considered by the Joint Chiefs of Staff (JCS) to be militarily useful. The 141 vessels include: 125 dry cargo ships, ten tankers and six troopships. The dry cargo ships are 29 freighters and 96 World War II Victory ships.⁴³ The latter are considered "attrition fillers" and will be scrapped by the year 2000. The troopships are in a poor state of repair and would not be available until⁴⁴ at least 60 days after mobilization.

The RRF consists of, at present, 86 vessels: eight tankers, one schoolship and 77 dry cargo ships. The schoolship belongs to the Massachusetts Maritime Academy with a wartime contingency mission to be a 2,000 man troopship.⁴⁵ The 77 dry cargo ships include: 13 Ro/Ros, 51 breakbulks, two seatrains (ships with rails to transport cargo-laden railcars), eight lighter-carriers and three auxiliary crane ships (T-ACS).⁴⁶ These cranes are used to discharge cargo from containerships during logistics-

over-the-shore (LOTS) operations and at ports where no loading/off-loading facilities are available.

The US merchant marine has 316 vessels which the JCS have determined to be militarily useful. Excluding all ships currently under charter to the MSC, they consist of 170 dry cargo, 144 tankers and two passenger ships (with a joint capacity of 6000 troops).⁴⁷

There are approximately 300 vessels flying foreign flags of convenience that are under effective US control (EUSC--see Glossary, Appendix A). However, only 134 of them have any military usefulness: 22 dry cargo, 101 tankers and 11 passenger liners with a maximum capacity for 45,000 troops.⁴⁸

Another source of strategic sealift is the NATO commitment to contribute 400 dry cargo vessels, 60 tankers and 21,000 troop spaces on passenger ships in the event of a war on the European continent.⁴⁹ The Republic of Korea likewise intends to assist with strategic lift. The existence of this contingency plan is not classified, but the specifics are and therefore the number of vessels is unavailable. Totalling our 809 domestic sealift resources

(including the FOC fleet) with those available from our
allies, we can at present muster just over 1200 ships.⁵⁰

Even this coalition force is small compared to the
Soviet 2,514 ship merchant marine.⁵¹ We have less than
half the number of ships they do. Since the Russians are a
continental power with interior lines of communication,
they need significantly less strategic sealift than the
United States to sustain combat operations on the
European/Asian land mass. Our strategy, on the other hand,
requires major seaborne transport of men and equipment to
meet our military commitments worldwide.

The attrition rate for our merchant fleet in wartime
is difficult to estimate. In World War II, for instance,
14 German U-boats sank 450 Allied ships from January to
July 1942.⁵² The United States had approximately 1,400
ships in its merchant fleet in 1942,⁵³ so the loss of 450
vessels was sustainable--the logistics mission in support
of our military could still be accomplished.

In 1987, the Soviets have roughly five submarines
for every four US merchant ships.⁵⁴ Submarine armament
today is more sophisticated and lethal than 1942
technology. But antisubmarine warfare is also more

advanced. The most quiet of enemy submarines can now be heard with highly sensitive hydrophones that are planted on the ocean floor and monitored for signal character and sound source location. Other detection devices such as the Tactical Towed Array System (TACTAS) on surface combatants and Surveillance Towed Array Sensor System (SURTASS) on MSC ocean surveillance auxiliary ships (TAGOS) troll behind these naval vessels in search of submerged threats. Fixed wing antisubmarine aircraft and helicopters are also equipped with acoustic gear to further extend the protective ring.

Enemy submarines venturing within range of this modern equipment enter into a deadly cat and mouse game with the air, surface and subsurface antisubmarine warfare teams. Once discovered and targeted, the probability of a submarine kill is high. Even so, what is most significant is the wartime life expectancy of those submarines before they are destroyed.

No doubt the technology exists today to defend our merchant fleet on the high seas. Questions do arise, however, when determining whether sufficient amounts of this equipment are in DOD inventories. The Navy has missions other than protecting sea lines of communication.

And these requirements compete for limited antisubmarine resources. The way in which missions are prioritized will have a direct bearing on the number of merchant ships that reach their ports of debarkation in wartime.

National Defense Reserve Fleet

At the end of World War II, the US Government⁵⁷ created the NDRF. It placed 1,400 merchant ships in mothball storage at various locations around the periphery of the United States. (Three sites still remain: (1) James River, Virginia, (2) Beaumont, Texas and (3) Suisun Bay, California.⁵⁸) The original idea was to preserve them all in an operational state to allow a speedy⁵⁹ reactivation in time of national emergency. But this fleet has finally dwindled away to only slightly over 200⁶⁰ ships, many of which are so old and deteriorated that their potential is debatable, to say the least.⁶¹ And where could we find the crews anyway?

In the past, the NDRF with its civilian crews when activated, has proved to be a valuable and useful source of sealift during past periods of surge requirements: the Korean War, Suez Canal Crisis of 1956, Berlin Airlift and to a limited extent, the Vietnam War. And some of these

vessels are still attractive today because they have special capabilities which have almost disappeared from the active merchant marine (i.e., breakbulk vessels with self-loading/off-loading capability).⁶² But the crews are just not available.

In addition to its dwindling numbers, there are numerous other problems with the reserve fleet. Insufficient manning is a major one (and will be discussed later). Crew training and familiarization with the older ships and the non-availability of repair parts, are problems which need addressing now if the few vessels left⁶³ are to be of any practical value later.

The Maritime Administration (MARAD) conducted a study in 1976 that concluded these ships could not meet Navy requirements for a five to ten day reactivation period. They would take a minimum of 30 to 40 days for preparation. Government money has simply not been allocated to maintain the fleet to originally intended standards. The ship yards and dry docks in the United States, even examined in the 1976 study, had already deteriorated to the point that they could not quickly (if at all) handle the large demand for "mothball fleet" upgrades.⁶⁴ And the state of disrepair of the NDRF and

our shipbuilding industry has continued to deteriorate since 1976. It would take significantly longer than 40 days to mobilize this fleet today. But, something had to be done, so, in 1976, the Ready Reserve Force was created.

Ready Reserve Force

The RRF is a portion of the National Defense Reserve Fleet that is maintained at a higher state of readiness than the rest of the NDRF. The deployment criteria for the RRF is five, ten and 20 days for reactivation--if crews are available.⁶⁵ It is composed of vessels with the most value militarily: Ro/Ro, lighter-carriers and breakbulk with self-loading/offloading capability.⁶⁶

The NDRF and RRF are cooperative efforts between the Navy Department and the Maritime Administration⁶⁷ (MARAD). The Navy calculates sealift requirements for future wars. It also determines the type and number of vessels needed to meet those requirements. Department of the Navy activates both fleets, based on recommendations from MSC, and manages all the costs.⁶⁸ (Beginning in 1989, however, RRF funding will be shifted to MARAD.)

MARAD is responsible for the NDRF and RRF property books. In addition, it maintains and makes provisions for the vessels. MARAD contracts with US steamship agents who have signed General Agency Agreements with the federal government. Those agents perform required maintenance and coordinate with union hiring halls in an effort to obtain crews once the ships are activated. Agents train civilian sailors on this older equipment for one week, two times a year. Classes are relatively small and are designed for personnel in key maintenance and stowage positions. Names of participants are kept on file with agents and union hiring halls in order to speed the assignment of trained individuals to the RRF.⁶⁹ But, since they are key people, it is likely they will already be occupying similar berths in other vessels.

The Ready Reserve Force is scheduled to grow from 86 vessels at present to 116 ships by 1991.⁷⁰ The cost of such an expansion in 1986 dollars is \$450 million, or \$15 million per ship. Add to this the annual maintenance cost of \$1 million per ship, and the expense becomes even more significant.⁷¹

But even with those dollars providing some ready vessels, our shortage of merchant mariners may well turn

out to negate the value. There is an anticipated need for 1,411 officers and 3,287 unlicensed seamen to crew the RRF in 1991. That is 16 percent of the available seafarers we are predicted to have by then. One study at the Naval Postgraduate School concluded that at least 41 RRF vessels will be without crews in 1991, assuming there will be, at that time, 100 percent manning of the projected US flag commercial fleet.⁷² This crew shortage is anticipated to worsen by 1992, when the RRF is scheduled to increase by another five vessels to a grand total of 121.⁷³ It will be even more difficult to man all the government and commercial sealift if the NDRF must also be activated.

Effective US Control Fleet

Another source of ships to support our war efforts might come from the flags of convenience fleet. The United States has agreements with Panama, Liberia, Honduras and the Bahamas to allow our Government to take control of these vessels in times of national emergency.⁷⁴ These ships come under the "Effective US Control" (EUSC) Program⁷⁵ and numbered 292 as of January 1, 1987.

But the military applications of the EUSC Program are questionable. Foreign crews may not be willing to sail

into dangerous waters for a Yankee cause. Yet all FOC vessels are crewed by foreigners to keep labor costs as low as possible. (Some might risk their lives if the price were right, but problems of skills, qualifications and languages would arise with any turnover in crews.)

Foreign relations continually change and nothing can prevent the four countries which participate in the EUSC Program from attempting to block US nationalization efforts. (Panama is a case in point. Our relations with that country changed dramatically in 1988 when Noriega seized control of the government.) Some of those foreign countries may even be sympathetic with some cause we may be fighting against then and as a consequence, block our reclamation efforts just to thwart us. Whereas some might argue that flags of convenience and EUSC treaties are an economic inevitability during peacetime, the EUSC Fleet is of questionable reliability in wartime.

Shortfalls in Strategic Sealift

The Commission on Merchant Marine and Defense completed a study for the President of the United States in September 1987. The Commission's staff included representatives from the military services, the executive

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branch of government, commerce and industry. Their conclusions are based upon thorough research and currently available information. Some of their findings are highlighted below.

The Commission based their study on two scenarios--a single theater war in Southwest Asia and a three theater global war. As in any comprehensive study of this nature, assumptions have to be made and computerized projections relied upon. The Department of Defense MIDAS (Model for Intertheater Deployment by Air and Sea) was used. Also considered were required timeframes for ship closure into ports of debarkation specified by DOD.
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Optimum deployment conditions were assumed. This meant no consideration was given to combat attrition of our sealift assets. It was assumed that there was sufficient airlift to deploy the men and equipment which were programmed to go by air, so there would be no spillover into surface shipping. Furthermore, there would be no delays at seaports of embarkation (SPOEs) and debarkation (SPODs). Sufficient material handling equipment and maritime crews would be available--perhaps the least realistic of all the assumptions made. Another consideration was that all sources of sealift previously

discussed, to include the questionable EUSC Program and NDRF assets, would be activated and available to defense planners. Even after these overly optimistic assumptions were made, results of the Commission's study that follow
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were still alarming.

Current Status--Dry Cargo for Southwest Asia: Our current shipping capability to transport dry cargo is inadequate to meet initial wartime surge requirements. One hundred thousand short tons (see Glossary, Appendix A) of unit equipment cannot be moved within required timeframes. Long-term sustainment operations on the other hand, are more favorable. According to the study, the merchant marine in conjunction with the RRF, NDRF and EUSC Fleet, can handle these lesser tonnages after the surge
80
requirements are met.

Current Status--Dry Cargo for Global War: Meeting initial surge requirements in a global war today is even less plausible. We can only ship 35 percent of the unit equipment that is programed to go by sea, and only 61 percent of the ammunition and initial resupply necessary. However, the outlook for sustained long-term operations is also better in this scenario. Under the most optimum of
81
situations, we can move the programed materials by sea.

Current Status--Tankers: The United States has enough tankers to support domestic needs and military operations in Southwest Asia simultaneously. Global war requirements, however, exceed current transport capabilities. The military requires 155 Handy Size Tanker Equivalents (HSTEs--see Glossary, Appendix A) and the domestic economy 134 HSTEs, for a total of 289 equivalent units. Our combined tanker fleets are capable of only 176⁸² HSTEs. Civilians or the military, or both, will have to do without. Neither is acceptable. Soldiers and sailors cannot perform many of their missions without fuel. And industry must have imports to manufacture necessary war materials.

Projected Status (Year 2000)--Dry Cargo for Southwest Asia: Based on projected declines in our dry cargo fleet from 170 to 64 vessels by the year 2000, significant shortfalls will occur during initial surge periods and sustainment operations. There will be a need to move approximately 2.5 million short tons of unit equipment, ammunition and initial supplies, but shipping capacities will not even reach the 2.0 million short ton mark. If we are to meet the requirement, our dry cargo⁸³ fleet must be tripled.

Projected Status (Year 2000)--Dry Cargo for Global War: Even under optimum conditions, we will be able to transport only 26 percent of the global war requirements. Given maximum assistance from our European allies, this figure would increase to 44 percent but still results in a significant tonnage shortfall.

Projected Status (Year 2000)--Tankers: The projected status is similar to the current one. Our tanker fleet in the year 2000 will be able to support simultaneously our domestic needs and military operations in Southwest Asia alone, but global war requirements will exceed the anticipated capability. The military will require 351 HSTEs and our civilian populace 134 HSTEs, for a total of 485 equivalent units. Our tanker fleet will be capable of only 435 HSTEs.

Current and Projected Status (Year 2000)--Troop Sealift: There is at present a requirement to deploy 24,000 soldiers by sea. There are no anticipated problems today if one assumes we have access to our EUSC assets--11 ships capable of taking 45,000 troops in one lift. Our two active passenger ships in the merchant marine plus one convertible schoolship in the RRF give us a 9,000 man capability. By the year 2000, however, the troopship

assets in the EUSC Fleet will be scrapped, leaving us with a projected shortfall of 15,000 passenger spaces. (This assumes no change to war plans requiring 24,000 personnel to deploy by sea and continued use of our two active passenger ships and one convertible schoolship currently on hand.)⁸⁷

Manning

In 1964, there were 47,500 jobs aboard US flag vessels compared to 19,193 in 1984. This reflects a 60 percent reduction in twenty years, averaging four percent per year. There were 34,000 mariners chasing those 19,193 jobs in 1984.⁸⁸ Today these figures have declined to 29,000 sailors competing for 11,000 seagoing jobs.⁸⁹ Vice Admiral Piotti believes there is a sufficiently strong maritime labor force in 1987 to man all commercial and military sealift assets currently at our disposal. There is a need for 24,000 civilian mariners, resulting in a current surplus of 5,000 men.⁹⁰ But, since most mariners cannot find berths, skills may have decayed significantly.

The Maritime Administration is cutting back on enrollment at the Merchant Marine Academy at Kings Point, New York. It is also reducing federal grants to the six

state maritime academies. This action is in response to a declining need for officers to sail a merchant fleet that is dwindling away. For the last several years, only 20 to 30 percent of the 1,000 qualified officers Kings Point⁹¹ graduates annually are ever sent to sea.

A recently released Navy Merchant Marine Manpower Study predicts a growing shortage of crews needed to operate these idle, government owned ships in the event of mobilization. This study predicted a shortage in excess of 8,000 seafarers by 1992. MARAD concurs with the Department⁹² of Defense projection.

Shortages of US flag crews have occurred during our last two wars. Problems were acutely severe in the Korean conflict because of its unexpected nature, contrasted to our delayed entry into World War II. In 1950, the number of requirements for commercial sailors increased 53 percent from 57,000 to 87,000. Ships were delayed numerous times because of the unavailability of engineers, radio operators and crewmen. During the period 1966 to 1969, there were 1,540 instances of commercial vessels laden with military cargo destined for Vietnam, which were delayed a total of 2,859 days due to the shortage of maritime manpower. Estimated costs of these delays between 1966 and 1968 were

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\$7.1 million. The likelihood of labor shortages in future conflicts is greater.

The federal government has helped create the manning problem that now confronts this nation. Government arbitrators mediated maritime disputes and strikes that were prevalent between 1934 and 1936. As a result of Washington's involvement, labor unions gained the exclusive right to hire merchant marine sailors. Acceptance into a union hiring hall is prerequisite to a job aboard a US flag vessel.⁹⁴ Naturally, unions try to restrict membership to protect the interests of their members. Demand for their services are kept artificially high which helps justify their case for maintaining the highest crew wages in the world. This in turn limits employment opportunities and number of trained mariners available to the nation.

Technological developments have reduced the requirements for a large labor force. Companies are investing vast amounts of capital in sophisticated machinery that is designed to replace the (even more costly) mariners. US carriers that at one time hired 35 to 40 personnel for a crew now only need 21 or 22.⁹⁵

Engineroom watches are no longer necessary around the clock. Main propulsion plants have been remoted to the bridge and alarm sensors installed. Repairs are generally easy and swift, requiring little skill or mechanical ability. Modern machinery and equipment is designed with component parts and monitoring systems that pinpoint the cause of malfunction. Modules, panels or black boxes are simply replaced.⁹⁶ Highly skilled technicians who were previously needed to make extensive repairs are no longer in great demand. There is even a device called the Dockmaster⁹⁷ that automatically ties up vessels. Masters and first mates also reap some of the technological benefits. Computers are capable of quickly generating efficient stowage plans. These machines can even select the best routes, based on the prevailing winds and weather.⁹⁸ But can they manage battle damage? That probably still requires a crew.

These innovations, while making our commercial fleet more competitive in the international market, have in some ways hurt our deployment capability for any full-scale mobilization. Not only are the numbers of seafarers dwindling, but also their skills.⁹⁹ The older, steam-powered ships in the NDRF and RRF must be crewed by men familiar with those vessels. The pool of talent needed to

load/off-load, stow cargo, operate and maintain these ships will deteriorate without practice. Worse yet, the expertise will eventually become nonexistent in America unless it is passed along to younger sailors entering the field--which are few. At the same time, we need men who are trained on the modern equipment that is now in use. An appropriate mix of seasoned sailors with diverse backgrounds is needed, in addition to sufficient numbers of them.

More hands on board will be needed in wartime. They will be used for lookout duty, damage control and firefighting. FOC vessels with their foreign crews (if those crews consent to serve at all) may need augmentation with American sailors, depending on cargo carried and coordination required (with military authorities at SPOEs/SPODs). Some American ships participate in the Merchant Ship Naval Augmentation Program (MSNAP), a US Navy program where merchant tankers and freighters handle underway replenishment of our warships. These specially trained seamen will be required on board merchant ships if MSNAP operations are to be successful.

There is no easy solution to the problem of crew shortages. It takes months to train sailors, and an

adequate supply of experienced mariners to operate NDRF and RRF vessels does not currently exist. DOD can build a ship faster than it can train a crew--regardless of the condition of our shipbuilding industry. It would be wise for the government to keep track of the whereabouts of retired mariners and able bodied seamen who depart the industry to find employment elsewhere. It might also help to know the whereabouts of those merchant marine academy graduates who have never gone to sea for extended periods of time. At least they have studied the basics.

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The Department of Defense has taken steps to slow the declining trends in our maritime manpower pool. More merchant seamen have been hired by the federal government. There are approximately 3,627 civil service mariners and 1,825 contract mariners on MSC's payrolls. MSC has civilian sailors who form skeletal crews aboard its new support vessels: fast sealift ships (FSS), surveillance ships (T-AGOS), auxiliary crane ships (T-ACS), aviation logistics support ships (T-AVB) and hospital ships (T-AH). When these ships are activated, they are manned by civilian seamen. Also, many of the MSC special mission support ships are now crewed by contract labor. The three Maritime Prepositioning Ship (MPS) squadrons throughout the

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world and Afloat Prepositioning Force at Diego Garcia have
all merchant mariners on board.

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Plans are to activate Ready Reserve Force ships a minimum of once every five years for at least 30 days. The NDRF and RRF have never provided steady employment and therefore have not made a permanent contribution to the size of the seafarer manpower pool. But at least these temporary government jobs allow crews to familiarize themselves with the older equipment. It also gives them a chance to maneuver with naval forces at sea. Ship masters and deck officers also gain some experience with the
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military.

The Defense Department has also introduced the Merchant Marine Reserve (MMR) Program. Civilian mariners are commissioned into the US Naval Reserve. They incur a two week annual training obligation during which time they learn how to coordinate with naval staff and support military operations. The MMR Program is valuable from a training standpoint, but it does not increase the merchant
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marine by a single seafarer.

If the United States Government were to expand its Naval Reserve to crew NDRF, RRF and other logistical

vessels in wartime, the personnel and training costs would be tremendous. And a larger Naval Reserve is no guarantee the job would ever get done. The Naval Reserve program is designed to place sailors on active duty an average of 36 days a year. Many of these men would never be afforded the opportunity to train on the specific vessel they would operate upon mobilization. (Budgetary priorities rule out the possibility of activating every ship in the NDRF and RRF for several weeks each year, and then placing them back in storage.)

The Naval Reserve plays an important role in our national defense and is an integral part of the total force structure. But regardless of the military leadership, training and money that could be brought to bear on this problem, the Reserve's efforts could not match those of our merchant marine. There is no substitute for full-time experience. Civilian mariners, if employed, can practice their skills on a daily basis and do so with far less drain on our treasury.

It is to our advantage to maintain a sufficient pool of seasoned sailors to operate our strategic lift in wartime. A prosperous merchant marine is one solution, and a relatively inexpensive one considering the alternatives.

Until a long-term political and economic solution can be reached, the government could offer monetary incentives to entice businesses to increase their fleet sizes, and thereby allow additional mariners to be hired and trained.

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CHAPTER 7

CONCLUSION

There are political and economic forces at work today in the international marketplace that are having devastating and long lasting consequences for our merchant marine. The deterioration of the commercial fleet has been evident for years, due to subtle causes which were never intended to contribute to the loss of this valuable national asset. Indeed, the reasons for the decline are so complex and interrelated, that neither labor, business nor government agencies can be assigned the responsibility.

Ship companies are coping with a situation not entirely of their own making. Their higher rates are, after all, largely the result of federal regulatory requirements, safety mandates, the demands of labor and the absence of an equitable and consistent maritime policy shared by all governments of the world.

Management is introducing new ideas to keep rates down while maintaining quality service. Rationalization and the latest developments in computers have helped US

business to hang on in a competitive world. And new regulatory laws do favor large volume shippers such as the Department of Defense by allowing special contract rates with individual conference members.

The world market is in a state of turmoil with overtonnaging and depressed rates. Poor utilization of ship capacity is a result of international supply and demand forces gone awry. Competitive imbalances exist because different governments subsidize their maritime industries in different ways, to different degrees and for different reasons. No standard exists.

The United States is damaging its own interests by letting foreign interests undercut our rates while maintaining rules and regulations which prevent our carriers from matching them. We can promote a free enterprise system within our own borders, but failing to support our own high seas fleet does not correct competitive imbalances throughout the world.

Leaders at the highest levels of business and government need to develop long-term solutions to age old problems. Extensive damage has already been done to our national defense and it cannot be corrected overnight.

Congress is taking some corrective action. It appropriated more money to Navy sealift programs for the period 1982 to 1986 than it has since the end of World War II. A total of \$18.8 billion is being spent--\$5.4 billion for shipbuilding/modernization and \$13.4 billion for operating/maintaining the Navy's logistical vessels. In addition to these amounts, the Ready Reserve Force is receiving \$.5 billion¹ to increase in size during the period 1986 to 1989.

While this money helps to ease the immediate shortages of strategic sealift, it does not solve all our problems. And certainly no long-term plan for eradication of our maritime troubles has ever been adopted. We still cannot meet dry cargo surge requirements for a one theater war, let alone a global conflict. Projected estimates for the year 2000 are far worse. Unless something is done to correct these shortfalls, a disaster could lie ahead for the United States.

Some members of Congress and officials at the Pentagon believe that, because the merchant marine cannot do the job, the Navy will have to assume the entire strategic sealift role for the country. This explains the billions being pumped into MSC while no comparable appropriations for the merchant marine are being made.

Such an approach makes no sense financially or militarily. Our commercial fleet contributes to the gross national product while the Navy is a considerable, although necessary, drain. The Navy is being forced to attempt to do what can be done more efficiently by the private sector. But before the private sector can perform satisfactorily, the US Government has to correct some of the competitive imbalances, internationally.

Even a recent study by the Department of the Navy concerning sealift concluded that, instead of increasing the RRF size, the federal government should adopt policies and legislate solutions to reverse the declining trend of the US merchant fleet.² They are not alone in their opinion. The Chairman of the Joint Chiefs of Staff, Admiral William J. Crowe, Jr., acknowledged in July 1986 that it would be more cost efficient for the government to have American business do the job.

The decline in size and capacity of the United States merchant marine has been a major concern of national security planners. Even in its presently diminished state, however, it remains an integral element of our preparedness for war and a critical pillar of deterrence. In this era of constrained resources, if there were no United States flag merchant marine, it would have to be replaced by a government owned and operated sealift fleet--at considerable additional expense to acquire and operate. (3)

Even so, the trend since 1982 has been to strengthen naval sealift while attempting no similar effort with the maritime industry. The \$18.8 billion going to MSC is much more than what has ever gone into operating-differential and construction-differential subsidies. The entire amount of money that has gone into both programs since their introduction in 1936 is only \$11.8 billion.⁴ Had all, or even a substantial portion, of MSC's appropriation been directed at ODS or CDS, or some other form of subsidization, some of these international imbalances would have already been offset.

A prospering maritime industry would also solve some other problems confronting our nation. A healthy commercial fleet would hire more sailors who could later be called to duty with the NDRF, RRF and FOC ships. We would also be able to compete with the Soviets' merchant marine, claim some of their market share and reduce their influence in parts of the world where it is to our advantage to do so.

It is dangerous from an economic and a military standpoint to withhold direct or indirect financial supports from our own maritime industry. Before that should even be contemplated, new federal policies are

needed--in place and working--which place American business on an equitable and competitive footing with its foreign counterparts. It is in our own best interest to do exactly that and, at the same time, preserve the meager shipping capacity which has survived within the framework of our present rules.

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APPENDIX A

APPENDIX A: GLOSSARY

Deadweight_Ton_(dwt): A deadweight ton is a unit of measure used to express the cargo carrying capacity of a vessel. A dwt is equivalent to a long ton, or 2,240¹ pounds.

Effective_US_Control_(EUSC)_Fleet: Another source of ships to support our war efforts might come from the flags of convenience fleet. The United States has agreements with Panama, Liberia, Honduras and the Bahamas to allow our Government to take control of these vessels in times of national emergency.² These ships come under the "Effective US Control" (EUSC) Program and numbered 292³ as of January 1, 1987.

Flatracks: Flatracks are similar to sea sheds in that they are temporary decks with open tops that slide into position between container cell guides inside the hold of a ship. Flatracks, however, are the size and shape of two standard containers stacked one on top of the other. They have two ends but no sides. That makes it possible to create a deck of indefinite length by placing an indefinite number of flatracks side by side inside a containership. This newly created deck is

heavy duty--suitable for practically any unit equipment⁴
or military cargo to include the M-1 battle tank.

Handy Size Tanker Equivalent (HSTE): An HSTE is a standard measurement based on a 27,500 dwt tanker with a 200,000 barrel capacity. MSC owns nine of these tankers whereas most commercial counterparts are considerably⁵ larger.

Lighter Aboard Ship (LASH): The LASH system uses a gantry crane and lift beam to lower or raise standard size barges, or lighters as they are known in maritime circles, into or from the water at the stern of the ship. The traveling gantry positions lighters into multiple cells where they are secured for transport. LASH vessels can easily be converted to carry⁶ containers as well.

Long Ton: A unit of weight equivalent to 2,240 pounds.⁷

Seabee: The Seabee is a lighter-carrier similar to LASH, but uses a stern elevator in conjunction with a rail and winch system to position the barges. Even though a Seabee is approximately one-third the size of a LASH

vessel, the Seabee's barges are five times the capacity
8
of the latter's.

Sea_Shed: A sea shed is a temporary deck with four sides
and an open top. Its volume equals that of four and a
half containers. The shed is lowered empty between
container cell guides into the hold of a ship. Once in
position, the cargo and/or equipment is lowered by
crane on to the sea shed deck and tied down. Because
the sheds may be stacked one on top of the other,
9
maximum use of containership space is possible.

Short_Tons: A unit of weight equivalent to 2,000
10
pounds.

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